Zooplankton in Lake 223, Experimental Lakes Area, Northwestern Ontario, 1974-1983

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by

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ABSTRACT

Chang, P.S.S., and D.F. Malley. 1987. Zooplankton in Lake 223, Experimental Lakes Area, northwestern Ontario, 1974-1983. Can. Data Rep. Fish Aquat. Sci. 665 : iv + 235 p.

We report the abundances (no•m^{-3} and no•m^{-2}) of individual zooplankton species collected from Lake 223 in the Experimental Lakes Area, northwestern Ontario for the years 1980 to 1983; and the abundances of eggs and females of selected major species for the years 1974, 1977-1983. Lake volume-weighted abundance (no•m^{-2}) of each species including life stages of copepods for the years 1974, 1977-1983 are presented in graphical form.

This report also includes data collected by more frequent sampling at three sampling stations 10 m apart near the centre of the lake in 1980, and monthly averages of abundance and biomass for zooplankton species individually and in taxonomic groups during ice-free periods from 1974, 1977-1983.

Key words: Rotifers; Crustacea; Copepoda; Cladocera; eggs; abundance; biomass.

RESUME

Chang, P.S.S. et D.F. Malley. 1987. Zooplankton in Lake 223, Experimental Lakes Area, Northwestern Ontario, 1974-1983. Can. Data Rep. Fish. Aquat. Sci. 665: iv + 235 p.

Le rapport fait état de l'abondance (nbre par m^3 et nbre par m^2) d'espèces zooplanctoniques recueillies dans le lac 223 - Région des Lacs Expérimentaux, dans le nord-ouest ontarien - pour les années 1980 à 1983 ainsi que l'abondance des oeufs et des sujets femelles des principales espèces choisies pour 1974 et 1977 à 1983. L'abondance pondérée par le volume du lac (nbre par m^2) de chaque espèce, notamment les copépodes à différents stades de leur cycle évolutif, pour les années 1974 et 1977 à 1983 est présentée au moyen de graphiques.

Le rapport fait également état de données recueillies dans le cadre d'un échantillonnage plus systématique effectué en 1980 à trois (3) postes d'échantillonnage, espacés de 10 m, vers le milieu du lac ainsi que des moyennes mensuelles d'abondance et de biomasse pour les espèces zooplanctoniques, individuellement et par groupes taxonomiques, au cours de la période d'eau libre de 1974 et de 1977 à 1983.

Mots-clés: rotifères; Crustacés; Copépodes; Cladocères; oeufs; abondance; biomasse.

INTRODUCTION

A small oligotrophic lake in the Precambrian Shield, Lake 223, in the Experimental Lakes Area of northwestern Ontario was experimentally acidified between 1976 and the present (Table 1) as described by Schindler et al. (1980) and Cruikshank (1984a). Chemical, physical and biological responses in Lake 223 have been reported by Schindler (1980), Schindler and Turner (1982), Cruikshank (1984b), Linsey and Braund (1984) and Schindler et al. (1985). Phytoplankton responses are described by Findlay and Saesura (1980), Findlay (1984) and Findlay and Kasian (1986).

Abundances ($no \cdot m^{-3}$) of zooplankton species, including life stages of copepods, from Lake 223 for the years 1974, 1977-1979 have been reported by Chang et al. (1981). The relationship of zooplankton responses up to 1980 to physical, chemical and biological factors was explored by Malley et al. (1982). The marked increase in cladocerans during 1981 to 1983 was reported by Malley and Chang (1986). This report continues the abundance data series begun by Chang et al. (1981) for the years 1980 to 1983. Furthermore, it reports the abundances of eggs and females of individual species and dry weight biomass ($\mu g \cdot m^{-2}$) for species and taxonomic groups for the years 1974, 1977-1983.

METHODS

STUDY SITE

Lake 223 is located at 49°42'N latitude and 93°42'W longitude in the Experimental Lakes Area, northwestern Ontario (Cleugh and Hauser 1971). It has an area of 27.27 ha, a maximum depth of 14.4 m, and a mean depth of 7.15 m. A bathymetric map showing the routine zooplankton sampling location is given in Fig. 1.

FIELD SAMPLING PROCEDURES

Routine sampling procedures

The zooplankton sampling program in Lake 223 began in May 1974. Samples were taken near the centre of the lake (Fig. 1) over the deepest point every two to four weeks. In 1974, a transparent 28.7 L trap with 53 µm mesh net (Schindler 1969) was used to collect a vertical series of samples at 1 m or occasionally 2 m depth intervals. During periods of thermal stratification, samples from each of the epilimnion and the remainder of the water column (metalimnion and hypolimnion) were separately pooled. After turnover, the entire vertical series of samples was pooled.

In order to conserve sampling effort, a 9.1 L plexiglass tube, 7.6 cm in diameter and 2 m in length, was used in 1975 and 1976. Ten individual samples were taken and combined after filtration through a 53 µm mesh net. Samples for this period thus represent the 0 to 2 m layer only and are not directly comparable with those from other years.

In 1977, a sampler consisting of two pairs of 30 cm long plexiglass tubes held at right angles to each other by a steel frame. Tubes were approximately 40 cm (centre to centre) apart. Nets of 153 and 53 µm mesh, were attached to the large (15 cm I.D.) and the small (7.5 cm I.D.) tubes, respectively. All nets were 1.5 m long and fitted with a 3.5 cm diameter bucket. Three replicates from each layer were pooled with the small and large mesh samples kept separate. The sampler was hauled from the lake bottom to the lake surface, from the lower limit of the thermocline to the lake surface and from the upper limit of the thermocline to the lake surface. Samples were thus overlapping and raw counts for the metalimnion (middle layer) were obtained by subtracting epilimnion upper layer) raw counts from metalimnion plus epilimnion raw counts. Similarly, hypolimnion (lower layer) raw counts were derived by subtracting metalimnion plus epilimnion raw counts from whole column raw counts. Negative values of abundance which resulted from these subtractions are represented in the Appendices as zeros.

In 1978 a closing sampler was used to obtain discrete samples from each of the three thermal layers Fig. 1 in Chang et al. 1980). This two-barrelled sampler was hauled from the bottom of the layer of interest to the top of that layer where it was closed by messenger. The sampler, developed by W. Burton of the Freshwater Institute, consisted of two plexiglass cylinders (12.9 cm I.D.) mounted 22 cm apart (centre to centre) on a metal frame. Lids held open by a catch could be released to close the mouth of both cylinders by dropping a messenger down the hauling rope which was attached to the centre of the frame. One cylinder was fitted with a 53µm mesh net, the other, with a 153 µm mesh net, both 1.5 m long and tapering to 3.5 cm diameter. The sampler was hauled three times through each layer and the large and small mesh samples were separately pooled for each layer.

In 1979 to 1983, the sampling method was similar to that in 1978, except that both barrels of the closing sampler were fitted with nets of 53 µm size. As a result, the total area of the sampler for the small mesh nets in 1979 was twice as large as in 1978, but the number of hauls per layer was reduced to two. A summary of sampling techniques employed during the period 1974-1983 and the volumes of lake water sampled by each gear are given in Table 2.

Table 3 indicates the frequency of sampling in each year and the depth strata sampled. During thermal stratification, the sampling strata were determined from temperature profiles. In 1974 to early 1980, the entire water column was represented by a single sample during periods of non-stratification. From late 1980 to 1983, winter sampling was depth-stratified using arbitrary depths of 0-4 m, 4-8 m and 8 m to the bottom. Depth-stratification of winter sampling allows more accurate calculation of volume-weighted abundances and biomass.

Although different sampling devices were used during these years, treatment of samples was consistent. All samples were preserved immediately in the field with 10% formalin.

Intensive sampling procedures in 1980

For more detailed study of temporal variability of the zooplankton and to determine the variability in single point sampling, a more intensive sampling program was conducted in Lake 223 from June 6 to September 1, 1980. Three stations near the centre of the lake at maximum depths of 12 m (station 1), 14 m (station 2) and 13 m (station 3) were sampled weekly. The three stations were located within 10 m of each other. Sampling dates and depth strata at three stations are given in Table 4.

Sampling procedures and methods were similar to those of the routine sampling scheme carried out in 1980.

LABORATORY PROCEDURES

In the laboratory, all samples were concentrated to a known volume and preserved for storage in 5% formalin. Routinely, 5% of the total sample volume was examined for all organisms from 1974 to 1982. In 1983, a greater portion (15%) of the samples were counted for adult copepods, copepodids and all cladocerans.

All samples were examined by using a compound light microscope and a Sedgwick-Rafter counting chamber. Adult copepods and all cladocerans were identified to species. Juvenile copepods were assigned as either calanoid or cyclopoid and identified to naupliar or copepodid stage. Number of eggs and females were recorded. Rotifers were identified at least to genus and usually to species. Ovid rotifers as well as total number of each species/genus were enumerated. Identifications were principally based on Edmondson (1959) and Brooks (1957) for crustaceans and Ruttner-Kolisko (1974) for rotifers. Abundances of zooplankton expressed as numbers per m^3 and numbers per m^2 were calculated according to Chang et al. (1984).

Dry weight biomass for individuals of each species was estimated by calculating the volumes of geometric configurations of the organisms (Lawrence et al. 1987). Volume-weighted monthly mean zooplankton biomass were obtained by dividing total biomass of a given species (or life stage of copepods) of that month by the number of sampling dates within that month.

Comparison of results from subsamples of different volumes

Appendix 1 compares the abundance of crustacean species based on subsamples of different volumes from four sampling dates in 1983 (nauplii and rotifers were excluded for comparison because the same amount of sample volumes for these groups were counted). It appears, that even though different sample volumes were enumerated (15% vs 5%), the proportional agreement between the two is very good in terms of abundance of individual species or groups.

DATA PRESENTATION

Species list and relative abundance

The zooplankton species identified from Lake 223 and their relative abundance during the period 1980-1983 are listed in Table 5.

Zooplankton abundance and biomass

Abundances of zooplankton species and life stages for Lake 223 from 1980 to 1983 are given in Appendix 2. For the period of 1974 and 1977 to 1983, abundances of females and eggs for important species are given in Appendix 3. Abundances and biomass are shown graphically in Appendices 4 and 5 for the 1974 to 1983 period. Monthly averages are given in Appendix 6.

Replication of sampling

Abundances and biomass of zooplankton species and life stages from replicate samples taken during the summer of 1980 are given in Appendices 7, 8, 9, 10 and 11.

Dry weight biomass

Length-dry weight relationships used in conversions of dry biomass for Cladocera are given in Appendix 12A; dry weights used in conversions to dry biomass for Cyclopoida, Calanoida and Rotifera are presented in Appendix 12B.

TAXONOMIC NOTES

1. Diaphanosoma birgei is probably the D. leuchtenbergianum of other authors. We referred to this species as D. brachyurum in Chang et al. (1981) and Malley et al. (1982) because the name D. leuchtenbergianum is considered non-valid by some workers and another name was not yet in use (see Korinek 1981).

2. Daphnia catawba first appeared in Lake 223 in 1980. Malley et al. (1982) referred to it as D. catawba x schoedleri because of the interpretation that specimens tended to bear half of the taxonomic characters of D. catawba and half of those of D. schoedleri as described by Brooks (1957). From further work on this population by W. Geiling (Limnoservices Inc., Lansdowne, Ontario), it appears that these Daphnia are closer to D. catawba than to any other species description, yet do not fit the description very well. There seems to be a continuum in the key characteristics so that a few animals have all the right features for a pure D. catawba, but many D. catawba individuals apparently have characteristics associated with other species. According to Dodson (1981) intermediate forms are common in members of the pulex group (which includes

catawba). We now call these Daphnia in Lake 223 D. catawba but we recognize there is considerable morphological variability within our population and general uncertainty about the taxonomy of the pulex group.

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REFERENCES

BROOKS, J.L. 1957. The systematics of North American Daphnia. Mem. Conn. Acad. Arts Sci. 13: 1-180.

CHANG, P.S.S., D.F. MALLEY, W.J. FINDLAY, G. MÜELLER, and R.T. BARNES. 1980. Species composition and seasonal abundance of zooplankton in Lake 227, Experimental Lakes Area, northwestern Ontario, 1969-1978. Can. Data Rep. Fish. Aquat. Sci. 182: iv + 101 p.

CHANG, P.S.S., D.F. MALLEY, I.L. DELBAERE, and G. MÜELLER. 1981. Species composition and seasonal abundance of zooplankton in Lake 223, Experimental Lakes Area, northwestern Ontario: before and during acidification. 1974-1979. Can. Data Rep. Fish Aquat. Sci. 290: iv + 42 p.

CHANG, P.S.S., D.F. MALLEY, and W.J. FINDLAY. 1984. Zooplankton in Lake 226, Experimental Lakes Area, northwestern Ontario, 1971-1978 data. Can. Data Rep. Fish. Aquat. Sci. 484: iv + 208 p.

CLEUGH, T.R., and B.W. HAUSER. 1971. Results of the initial survey of the Experimental Lakes Area northwestern Ontario. J. Fish. Res. Board Can. 28: 129-137.

CRUIKSHANK, D.R. 1984a. Whole lake chemical additions in the Experimental Lakes Area, 1969-1983. Can. Data Rep. Fish. Aquat. Sci. 449: iv + 23 p.

CRUIKSHANK, D.R. 1984b. Temperature profiles for 29 lakes in the Experimental Lakes Area, northwestern Ontario, 1968-1983. Can. Data Rep. Fish. Aquat. Sci. 452: iv + 519 p (bound in two parts).

DODSON, S.I. 1981. Morphological variation of Daphnia pulex Leydig (Crustacea : Cladocera) and related species from North America. Hydrobiologia 83: 101-114.

EDMONDSON, W.T. ed.) 1959. Ward and Whipple's freshwater biology. 2nd ed. Wiley, New York. 1248 p.

FINDLAY, D.L. 1984. Effects on phytoplankton biomass, succession and composition in Lake 223 as a result of lowering pH levels from 5.6 to 5.2. Data from 1980 to 1982. Can. Manuscr. Rep. Fish. Aquat. Sci. 1761: iv + 10 p.

FINDLAY, D.L., and S.E.M. KASIAN. 1986. Phytoplankton community responses to acidification of Lake 223, Experimental Lakes Area, northwestern Ontario. Water, Air Soil Pollut. 30: 719-726.

FINDLAY, D.L., and G. SAESURA. 1980. Effects on phytoplankton biomass, succession and composition in Lake 223 as the result of lowering pH levels from 7.0 to 5.6. Data from 1974 to 1979. Can. Manuscr. Rep. Fish. Aquat. Sci. 1585: iv + 16 p.

KORINEK, V. 1981. Diaphanosoma birgei n. sp. (Crustacea, Cladocera). A new species from America and its widely distributed subspecies Diaphanosoma birgei ssp. lacustris n. ssp. Can. J. Zool. 59: 1115-1121.

LAWRENCE, S.G., D.F. MALLEY, W.I. FINDLAY, M.A. MacIVER, and I.L. DELBAERE. 1987. A method for estimating dry weight of freshwater plantonic crustaceans from measures of length and shape. Can. J. Fish. Aquat. Sci. 44: (suppl.) in press.

LINSEY, G.A., and J. BRAUND. 1984. Water chemistry data from Lake 223 of the Experimental Lakes Area, northwestern Ontario, 1974 to 1982. Can. Data Rep. Fish. Aquat. Sci. 487: iv + 121 p.

MALLEY, D.F., and P.S.S. CHANG. 1986. Increase in the abundance of Cladocera, at pH 5.1 in experimentally acidified Lake 223, Experimental Lakes Area, Ontario. Water Air Soil Pollut. 30: 629-638.

MALLEY, D.F., D.F. FINDLAY, and P.S.S. CHANG. 1982. Ecological effects of acid precipitation on zooplankton, p. 297-327. In F.M. D'Itri, (ed.) Acid precipitation: effects on ecological stress. Ann Arbor Science Publishers, Ann Arbor, MI.

RUTTNER-KOLISKO, A. 1974. Plankton rotifers: biology and taxonomy (translated by G. Kolisko). Die Binnengewasser 26(1): 1-146.

SCHINDLER, D.W. 1969. Two useful devices for vertical plankton and water sampling. J. Fish. Res. Board Can. 26: 1948-1955.

SCHINDLER, D.W. 1980. Experimental acidification of a whole lake: A test of the oligotrophication hypothesis, p. 370-374. In D. Drablos and A. Tollan (ed.) Ecological impact of acid precipitation. SNSF Project, Oslo.

SCHINDLER, D.W., K.H. MILLS, D.F. MALLEY, D.L. FINDLAY, J.A. SHEARER, I.J. DAVIES, M.A. TURNER, G.A. LINSEY, and D.R. CRUIKSHANK. 1985. Long-term ecosystem stress: the effects of eight years of acidification on a small lake. Science (Wash., DC) 228: 1395-1401.

SCHINDLER, D.W., and M.A. TURNER. 1982. Biological, chemical and physical responses of lakes to experimental acidification. Water Air Soil Pollut. 18: 259-271.

SCHINDLER, D.W., R. WAGEMANN, R.B. COOK, T. RUSZCZYNSKI, and J. PROKOPOWICH. 1980. Experimental acidification of Lake 223, Experimental Lakes Area: background data and first three years of acidification. Can. J. Fish. Aquat. Sci. 37: 342-354.

Table 1. Mean epilimnion pH of Lake 223 in the ice-free seasons of 1974 to 1983[a].

Year	Mean epilimnion pH
Pre-acidification	
1974	6.71
1975	6.65
During acidification	
1976	6.49
1977	6.13
1978	5.93
1979	5.64
1980	5.59
1981	5.02
1982	5.09
1983	5.13

[a] From Schindler et al. 1985

Table 2. Summary of methods used to sample zooplankton of Lake 223 during 1974-1983.

Period	Sampler	Mesh size of nets (μm)	Mouth diameter of each net (d)	Sampler surface area A)	Vol. of lake water sampled (V)	Remarks
1974	Transparent trap	53	-	-	0.0287 m^3 × no. of trapfuls	vertical series at m intervals
1975-1976	2 m long plexi-glass tube	53	0.076 m	0.00454 m^2	A × 10 hauls × 2 m depth	lake surface to 2 m only
1977	4 barrel open sampler	two small nets: 53	0.075 m	0.00884 m^2	A × 3 hauls × depth of sampling layer (m)	vertical hauls from top of thermocline to Lake surface; bottom of thermocline to lake surface; lake bottom to lake surface
		two large nets 153	0.15 m	0.0354 m^2	A x 3 hauls x depth of sampling layer (m)	
1978	2 barrel closing sampler	one small net 53	0.129 m	0.01307 m^2	A × 3 hauls × depth of sampling layer (m)	vertical hauls through epilimnion, metalimnion or hypolimnion
		one large net 153	0.129 m	0.01307 m^2	A × 3 hauls × depth of sampling layer (m)	
1979-1983	2 barrel closing sampler	two small nets 53	0.129 m	0.02614 m^2	A × 2 hauls × depth of of sampling layer (m)	vertical hauls through epilimnion, metalimnion or hypolimnion

Table 3. List of routine zooplankton sampling dates and depth strata in Lake 223 during 1974, 1977-1983.

Day		Sampling stratum (metres) Upper	Middle	Lower
	1974			
142	May 22	0-11		
170	Jun 19	0- 4		4-13
198	Jul 17	0- 4		4-13
226	Aug 14	0- 5		5-12
254	Sep 11	0- 7		7-12
282	Oct 9	0-12		
310	Nov 6	0-13		
	1977			
136	May 16	0- 2.5	2.5-4	4-13
150	May 30	0- 3	3-6	6-15
164	Jun 13	0- 4.5	4.5-6	6-15
178	Jun 27	0- 3	3-7.5	7.5-13
206	Jul 25	0- 4.5	4.5-8	8-13
220	Aug 8	0- 6	6-9	9-13
234	Aug 22	0- 7.5	7.5-10	10-13.5
262	Sep 19	0- 9	9-11	11-14
283	Oct 10	0-10.5		10.5-14
290	Oct 17	0-14		
	1978			
128	May 8	0-13		
156	Jun 5	0- 3	3-8	8-13
184	Jul 3	0- 3	3-8	8-13
205	Jul 24	0- 5	5-10	10-13
226	Aug 14	0- 5	5-9.5	9.5-13
250	Sep 7	0- 5	5-10	10-13
268	Sep 25	0- 8.5	8.5-11	11-13
296	Oct 23	0-13		
	1979			
141	May 21	0-14		
155	Jun 4	0- 3	3-6.5	6.5-14
169	Jun 18	0- 3	3-7	7-14
183	Jul 2	0- 5	5-7	7-14
197	Jul 16	0- 5	5-8	8-14
211	Jul 30	0- 6	6- 9.5	9.5-14
225	Aug 13	0- 6.5	6.5-10	10-14
239	Aug 27	0- 7.5	7.5-11	11-13
253	Sep 10	0- 8	8-12	12-14
267	Sep 24	0-10		10-13
281	Oct 8	0-12	12-13	13-14
295	Oct 22	0-13.5		
	1980			
78	Mar 18	0-13		
126	May 5	0- 2	2- 4.5	4.5-14
140	May 19	0- 1.5	1.5- 7	7-14
156	Jun 4	0- 4	4- 8	8-12
168	Jun 16	0- 5.5	5.5-12	12-14.5
182	Jun 30	0- 6	6-11	11-14
189	Jul 7	0- 6.5	6.5-12	12-14.5
203	Jul 21	0- 6	6-12	12-14
217	Aug 4	0- 7		7-14
231	Aug 18	0- 8		8-12
245	Sep 1	0- 8	8-12	
259	Sep 15	0-10	10-12	12-14
273	Sep 29	0- 6	6-12	
287	Oct 13	0- 6.5	6.5-13	
301	Oct 27	0- 7	7-14	
344	Dec 9	0- 4	4- 8	8-13.5
	1981			
13	Jan 13	0- 4	4- 8	8-13
41	Feb 11	0- 4	4- 8	8-13
76	Mar 17	0- 4	4- 8	8-13
125	May 5	0- 4	4- 6	6-14
138	May 18	0- 5	5- 7	7-14
152	Jun 1	0- 4	4- 8	8-14
166	Jun 15	0- 5.5	5.5- 9	9-14
180	Jun 29	0- 6	6- 8	8-14
194	Jul 13	0- 3	3-10	10-13
208	Jul 27	0- 6	6-10	10-14
222	Aug 10	0- 6	6-11	11-14
236	Aug 24	0- 7	7-11	11-14
250	Sep 7	0- 8.5		8.5-14
264	Sep 21	0- 9		9-14
278	Oct 5	0-13.5		13.5-14
292	Oct 19	0-14		
	1982			
13	Jan 13	0- 4	4- 8	8-13
41	Feb 11	0- 4	4- 8	8-13
67	Mar 8	0- 4	4- 9	8-10
130	May 10	0-14		
144	May 24	0- 5	5- 7	7-14
158	Jun 7	0- 4	4- 8	8-14
172	Jun 21	0- 5	5- 8	8-14
186	Jul 5	0- 6	6- 9	9-14
200	Jul 19	0- 5	5-10	10-14
216	Aug 4	0- 6	6-10	10-13
228	Aug 16	0- 6	6-10	10-13.5
242	Aug 30	0- 7	7-11	11-14
256	Sep 13	0- 8	8-11	11-13
270	Sep 27	0- 9	9-11	11-14
284	Oct 11	0-12	12-13	13-14
296	Oct 23	0-14		
	1983			
12	Jan 12	0- 4	4- 8	8-13
47	Feb 17	0- 4	4- 8	8-14
75	Mar 16	0- 4	4- 8	8-13
164	Jun 13	0- 4	4- 8	8-13
181	Jun 30	0- 4.5	4.5- 8	8-13
185	Jul 4	0- 4	4- 9	9-13
192	Jul 11	0- 3.5	3.5- 8.5	8.5-13.5
206	Jul 25	0- 4	4- 9	9-13
220	Aug 8	0- 5	5- 9	9-13
234	Aug 22	0- 6.5	6.5-11	11-13
248	Sep 5	0- 6	6-12	12-13
262	Sep 19	0-10	10-12	11-13
276	Oct 3	0-11		
290	Oct 17	0-13		
348	Dec 14	0- 4	4- 8	8-13

Table 4. List of zooplankton sampling dates and depth strata at three stations in Lake 223 during 1980.

		Station 1			Station 2			Station 3		
		Sampling layer (metres)			Sampling layer (metres)			Sampling layer (metres)		
Day	Date	Upper	Middle	Lower	Upper	Middle	Lower	Upper	Middle	Lower
158	Jun 6	0-4	4-10	10-11.5	0-4	4-11	11-14.5	0-4	4-10.5	10.5-12
161	Jun 9	0-5	5-10.5	10.5-12	0-5	5-11	11-14	0-5	5-12	12-13
168	Jun 16	0-6	6-10	10-11.5	0-5.5	5.5-12	12-14.5	0-5.5	5.5-10.5	10.5-13
182	Jun 30	0-6	6-11		0-6	6-11	11-14	0-6	6-11	11-13
189	Jul 7	0-6.5	6.5-11.5		0-6.5	6.5-12	12-14.5	0-6		6-12
196	Jul 14	0-7		7-11	0-7	7-12	12-14	0-7	7-11	11-13
203	Jul 21	0-6		6-11	0-6	6-12	12-14	0-6		6-13
210	Jul 28	0-7		7-11.5	0-7		7-13	0-7		7-13
217	Aug 4	0-7		7-11.5	0-7		7-14	0-7		7-13
224	Aug 11	0-8		8-11	0-8		8-13	0-7.5		7.5-13
231	Aug 18	0-8		8-11.5	0-8		8-12	0-8		8-13
238	Aug 25	0-8		8-11	0-8		8-12	0-8		8-12
245	Sep 1	0-8		8-11	0-8		8-12	0-8		8-13

Table 5. Zooplankton species identified from Lake 223 during the period 1980-83. An "+" indicates that a species was present in low numbers usually less than 10,000 m^{-2} for crustaceans and 100,000 m^{-2} for rotifers. "++" indicates that it was frequently more numerous, and "-" indicates that no organisms were found in the subsamples.

Species	1980	1981	1982	1983
Cladocera				
Daphnia galeata mendotae Birge	+	+	-	-
Daphnia catawba Coker	+	++	++	++
Daphnia retrocurva Forbes	-	-	-	+
Bosmina longirostris (Muller)	++	++	++	+
Diaphanosoma birgei Korinek	+	+	-	+
Holopedium gibberum Zaddach	+	++	-	++
Leptodora kindtii (Focke)	-	+	-	-
Chydorus sphaericus Muller	-	+	-	+
Calanoida				
Diaptomus minutus Lillj.	++	++	+	++
Epischura lacustris Forbes	+	-	-	-
Calanoid nauplii N1-N6	++	++	++	++
Calanoid copepodids C1-C6	++	++	+	+
Cyclopoida				
Cyclops vernalis Fischer	+	-	-	-
Cyclops bicuspidatus thomasi Forbes	++	+	+	+
Mesocyclops edax (Forbes)	+	+	+	+
Tropocyclops prasinus mexicanus Kiefer	+	+	-	-
Cyclopoid nauplii N1-N6	++	++	++	++
Cyclopoid copepodid C1-C5	++	++	++	++
Rotifera				
Conochilus unicornis Rousselet	+	+	-	-
Filinia longiseta (Ehrenberg)	+	+	+	+
Conochiloides sp.	-	+	+	-
Collotheca sp.	+	+	+	+
Polyarthra vulgaris Carlin	++	++	++	++
Rotifera (cont'd.)				
Polyarthra remata (Skorikow)	++	+	++	+
Synchaeta sp.	+	+	+	-
Ploesoma sp.	+	-	-	-
Ploesoma lenticulare Herrick	-	+	+	-
Ascomorpha ovalis (Carlin)	+	-	-	-
Gastropus stylifer Imhof	++	+	+	++
Gastropus hyptopus (Ehrenberg)	-	+	-	-
Ascomorpha ecaudis Petry	-	+	-	-
Ascomorpha saltans (Bartsch)	-	+	-	-
Trichocerca cylindrica (Imhof)	-	-	+	-
Trichocerca sp.	++	+	+	+
Keratella taurocephala (Myers)	++	++	++	++
Keratella cochlearis (Gosse)	++	++	+	+
Keratella hiemalis Carlin	+	+	+	+
Kellicottia longispina (Kellicott)	++	++	+	+
Kellicottia bostoniensis (Rousselet)	++	++	++	++
Anuraeopsis fissa (Gosse)	+	-	+	-
Cephalodella sp.	-	-	+	-
Lecane sp. (includes Monostyla sp.)	+	+	+	-
Monommata sp.	-	-	+	-
Pompholyx sp.	-	-	-	-
globular rotifers	+	-	-	+

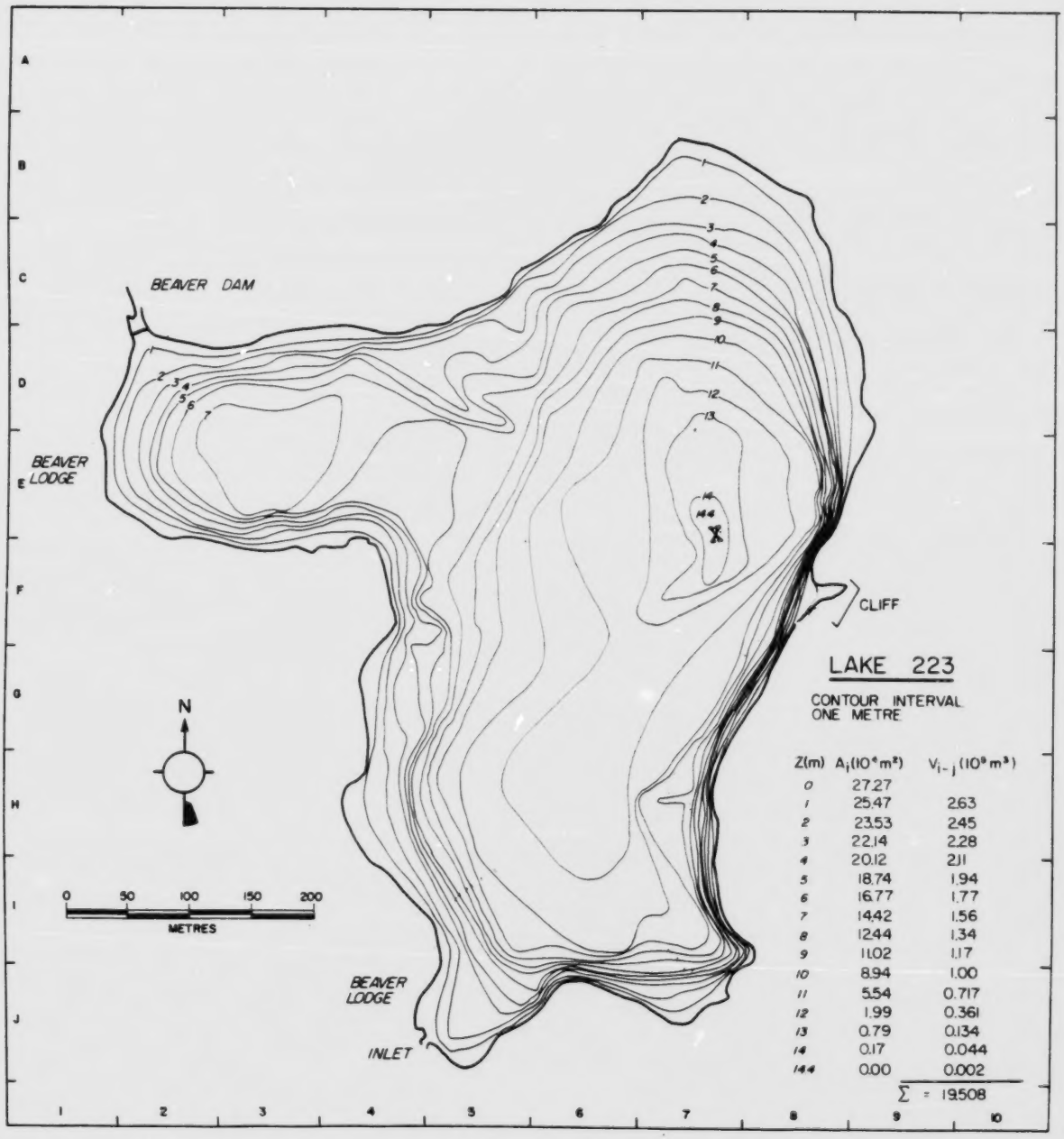


Fig. 1. Bathymetric map of Lake 223. X indicates zooplankton regular sampling station; Z is lake depth profile; A is surface area of lake strata at indicated depth and V is the volume of lake strata (based on Schindler et al. 1980).

Appendix 1. Comparison of calculated abundance (numbers per square metre) of crustacean species including copepodid stages of copepods in Lake 223 based on subsamples of different volumes.

	15% of the sample						5% of the sample					
	1983					% of	1983					% of
	Jan 12	Jun 13	Jul 11	Aug 8	Mean	total	Jan 12	Jun 13	Jul 11	Aug 8	Mean	total
Calanoida (Copepodids)												
Calanoids C1	0	1230	404	128	441	0.32	664	1560	337	0	640	0.40
Calanoids C2	0	1490	1715	128	833	0.60	664	795	2360	0	955	0.60
Calanoids C3	0	1819	1561	2432	1453	1.05	332	2682	2718	2010	1936	1.22
Calanoids C4	332	1168	2429	8707	3159	2.28	563	1228	2632	5136	2390	1.51
Calanoids C5	94	2313	636	1920	1241	0.89	332	3742	0	3469	1886	1.19
Sub total	426	8020	6745	13315	7127	5.14	2555	10007	8047	10615	7806	4.92
Calanoida (Adults) C6												
Diaptomus minutus (m)	6129	13602	5859	10058	8912	6.42	5471	16252	6943	7709	9094	5.73
Diaptomus minutus (f)	11822	8842	4626	5582	7718	5.56	4996	6531	8914	6325	6692	4.22
Sub total	17951	22444	10485	15640	16630	11.98	10467	22783	15857	14034	15785	9.95
Cyclopoida (Copepodids)												
Cyclopoids C1	1085	4718	6428	7932	5041	3.63	1945	4053	8248	7977	5556	3.50
Cyclopoids C2	2677	2840	14777	8048	7086	5.11	2124	3515	12742	6786	6292	3.97
Cyclopoids C3	3536	2186	16044	7800	7392	5.33	5228	990	17972	6788	7745	4.88
Cyclopoids C4	6531	3859	14118	8448	8239	5.94	9557	3162	18625	10681	10506	6.62
Cyclopoids C5	13668	5007	8657	3897	7802	5.62	17753	6810	10215	7155	10483	6.61
Sub total	27497	18610	60004	36125	35559	25.62	36607	18530	67802	39387	40582	25.58
Cyclopoida (Adults) C6												
Mesocyclops edax (m)	0	0	482	4372	1214	0.87	0	0	0	4149	1037	0.65
Mesocyclops edax (f)	0	0	134	838	243	0.18	0	0	568	524	273	0.17
Cyclops bicuspidatus thomasi (m)	25779	1419	4689	1308	8299	5.98	19758	3920	4963	3116	7939	5.01
Cyclops bicuspidatus thomasi (f)	19748	2242	4928	1048	6992	5.04	17861	1834	6931	1350	6994	4.41
Sub total	45527	3661	10233	7566	16747	12.07	37619	5754	12462	9139	16244	10.24
Cladocera												
Holopedium gibberum	0	35647	7630	1933	11303	8.14	0	55885	28668	3805	22090	13.93
Bosmina longirostris	174318	7943	3776	8176	48553	34.99	185244	7400	4866	11320	52208	32.91
Daphnia catawba	0	989	1931	8483	2851	2.05	0	0	4781	10870	3913	2.47
Sub total	174318	44579	13337	18592	62707	45.19	185244	63285	38315	25995	78210	49.30
Total Crustaceans	265719	97314	100804	91238	138769	100.00	272492	120359	142483	99170	158626	100.00

APPENDIX 2

Abundance as individuals per cubic metre and per square metre (lake volume-weighted) for zooplankton species or life stages on each sampling date at the routine sampling station in Lake 223 for the years 1980 to 1983. In most cases, abundance is shown for each sampling layer during periods of thermal stratification or for the entire water column during non-stratification. The results of sampling the entire water column are shown in the "upper" column of the table. Zeros indicate no organisms were found in the subsamples. The corresponding dates and depth limits of each sampling layer are given in Table 3.

Density Listing for Lake 223
Daphnia galeata mendotae

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	69	0	0	277	0
156	95	0	0	332	0	0
168	0	0	0	0	0	0
182	127	0	0	616	0	0
189	0	0	0	0	0	0
203	1211	286	0	5855	646	0
217	327		0	1772		0
231	95		430	563		512
245	191	0		1127	0	
259	1032	1147	573	6912	453	37
273	382	637		1848	1437	
287	470	235		2410	474	
301	983	109		5317	191	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	76	0	0	94
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	191	0	0	664	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
195	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density Listing for Lake 223
Daphnia catawba

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	486	0	0	2195	0	0
182	255	0	0	1232	0	0
189	470	0	0	2410	0	0
203	765	860	0	3697	1940	0
217	218		2705	1181		4727
231	860		6025	5075		7176
245	95	1338		563	1594	
259	1721	1912	382	11520	756	24
273	892	382		4318	862	
287	353	706		1807	1424	
301	737	0		3987	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	191	0	0	664	0	0
138	153	2486	0	640	3036	0
152	573	4518	286	1992	10953	360
166	1147	695	1377	8780	1191	1139
180	5451	4303	1020	26347	4576	1281
194	765	3442	2295	2064	13749	1020
208	1083	4973	286	5238	9246	132
222	318	5967	1020	1540	12664	201
236	655	4781	127	3544	7412	25
250	630		1043	3850		1066
264	6715		1530	42482		1265
278	1360		255	9718		0
292	382			2736		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	54			390		
144	76	0	0	320	0	0
158	2869	191	0	9963	463	0
172	1224	2805	0	5122	4804	0
186	4080	510	706	19722	761	321
200	8110	4437	5355	33933	11130	2666
216	3953	2677	255	19105	4978	114
228	2104	3442	383	10169	6401	445
242	1803	975	1147	9748	889	226
256	765	255	0	4511	270	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	191	114	38	664	278	47
181	34	87	153	130	180	189
195	114	38	191	398	109	155
192	349	229	153	1079	694	158
206	726	1052	286	2524	3001	252
220	1499	1004	71	6274	2150	58
234	918	340	47	4700	624	8
248	2550	2932	688	12326	6612	33
262	3442	6694	1338	25041	2646	65
276	2469		1434	17174		260
290	3060			21841		
348	0	0	0	0	0	0

Density Listing for Lake 223
Diaphanosoma birgei

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	478	0	0	1660	0	0
168	625	0	0	2822	0	0
182	1657	0	127	8012	0	25
189	823	0	0	4218	0	0
203	9818	0	0	47856	0	0
217	218		0	1181		0
231	0		0	0		0
245	191	0		1127	0	
259	344	1147	0	2304	453	0
273	127	0		616	0	
287	0	117		0	237	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	76	0	0	320	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	70	0	0	361	0	0
248	95	95	114	462	215	5
262	95	0	0	640	0	0
276	52		0	362		0
290	0			0		
348	0	0	0	0	0	0

Density Listing for Lake 223
Holopedium gibberum

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	573	0	0	1068	0	0
140	0	0	0	0	0	0
156	2773	669	191	9631	1622	227
168	2017	0	0	9098	0	0
182	127	0	0	616	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	95		0	563		0
245	0	0		0	0	
259	172	0	0	1152	0	0
273	1147	127		5546	287	
287	353	0		1807	0	
301	245	54		1329	95	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	1147	382	0	3985	520	0
138	2065	2104	0	8643	2569	0
152	1052	6240	717	3653	15126	901
166	1669	4809	2410	7526	8738	1993
180	9181	10328	765	44374	10984	361
194	127	4426	2295	344	17677	1020
208	573	1721	191	2773	3200	88
222	127	612	0	616	1298	0
236	327	95	0	1772	148	0
250	540		0	3300		0
264	2805		229	17745		189
278	1133		1530	8098		13
292	218			1563		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	218			1563		
144	765	0	0	3201	0	0
158	6694	1912	63	23248	4636	90
172	5738	16067	4335	24009	27515	5446
186	5355	7141	3825	25885	10657	3164
200	2142	5202	3825	9963	13049	1761
216	510	6885	1275	2465	12802	566
228	510	382	218	2465	711	98
242	163	382	382	886	592	75
256	286	255	0	1691	270	0
270	955	382	255	5915	240	50
284	1721	765	1147	12201	37	18
296	273			1954		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	7612	3251	1071	26437	7881	1328
181	1734	1486	15914	6639	3074	19736
185	3175	1912	3921	11026	5457	3180
192	306	1530	1989	944	4629	2056
206	803	2933	382	2789	6657	310
220	306	286	47	1280	614	38
234	70	1020	621	361	1873	112
248	159	414	0	770	934	0
262	57	382	76	384	151	3
276	1773		717	12336		130
290	3178			22681		
348	0	478	459	0	1159	569

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	255	69	0	360	277	0
156	1530	3347	478	5313	8113	569
168	834	1324	0	3763	3415	0
182	127	688	0	616	1461	0
189	0	0	0	C	0	0
203	318	0	191	1540	0	12
217	0		0	0		0
231	2582		860	15226		1025
245	956	382		5639	455	
259	22379	24483	6885	149771	9678	449
273	3187	1020		15407	2299	
287	941	1059		4820	2137	
301	2090	546		11299	955	
344	2869	1530	695	9963	3709	868

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	2199	3634	1453	7638	8809	1802
41	0	573	765	0	1390	948
76	0	0	1071	0	0	1328
125	669	1147	0	2324	1561	0
138	3749	9563	382	15686	11678	668
152	2677	7531	2151	9299	18255	2703
166	5703	9599	14460	25715	17079	11963
180	24961	20657	7651	120643	21968	9612
194	892	10574	34429	2409	42229	15302
208	7906	24292	2008	38211	45163	925
222	2359	2448	1147	11401	5195	226
236	1639	382	127	8861	592	25
250	2700		417	16502		434
264	6290		2295	39793		1898
278	2720		3060	19436		26
292	5847			41827		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1338	4590	8186	4649	11127	10153
41	2869	4686	10711	9963	11359	13284
67	0	2008	9755	0	4868	7762
130	0			0		
144	0	0	0	0	0	0
158	1912	765	0	6642	1854	0
172	229	0	637	960	0	801
186	1530	4590	4590	7395	6851	3797
200	4131	4284	3060	17286	10746	1409
216	4271	3060	0	20646	5689	0
228	5802	6312	327	28042	11735	148
242	16395	13389	5738	88619	20754	1134
256	21901	20913	1338	129142	22140	243
270	5100	25248	7651	32265	15897	1512
284	7603	27543	18745	53889	1353	302
296	2623			18763		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	28980	24459	13282	98557	59287	16472
47	258	1080	1096	896	2619	1377
75	19	76	38	66	185	47
164	1683	650	420	5845	1576	521
181	136	961	382	520	1989	474
195	918	1415	95	3188	4038	77
192	306	726	612	944	2198	632
206	573	191	143	1992	545	116
220	1499	860	71	6274	1843	58
234	70	255	95	361	468	17
248	541	255	153	2619	574	7
262	3519	3442	612	23553	1361	30
276	573		95	3991		17
290	2589			18481		
348	1721	2677	6809	5978	6490	8445

Density listing for Lake 223
Diaptomus minutus

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	4965			35440		
126	16067	1071	442	29931	2105	1472
140	15557	4173	0	21992	16658	0
156	2869	1243	286	9963	3013	341
168	1808	529	306	8153	1366	20
182	992	344	0	4314	730	0
189	235	0	0	1205	0	0
203	0	0	0	0	0	0
217	218		0	1181		0
231	95		0	563		0
245	286	0		1691	0	
259	860	1530	191	5760	504	12
273	4718	637		22803	1437	
287	7651	2471		39167	4987	
301	3442	2295		18610	4011	
344	8607	1912	1669	49891	4636	2083

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	8894	4781	2830	50887	11590	3510
41	6885	3538	2830	23912	8577	3510
76	3729	5929	2524	12952	14372	3131
125	4590	4208	95	15941	5725	221
138	0	0	0	0	0	0
152	765	0	0	2656	0	0
166	4729	1093	0	21324	1986	0
180	2295	860	127	11093	915	160
194	6758	1352	573	18240	5401	255
208	2741	0	95	13250	0	44
222	956	0	127	4622	0	25
236	2623	191	127	14179	296	25
250	495		0	3025		0
264	2252		0	14250		0
278	1936		0	13767		0
292	273			1954		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1625	286	535	5646	695	664
41	382	669	76	1328	1622	94
67	860	669	0	2999	1622	0
130	163			1172		
144	306	0	0	1280	0	0
158	6981	95	0	24244	231	0
172	2870	2040	0	11844	3494	0
186	4718	510	0	22803	761	0
200	2142	153	191	8963	385	88
216	318	0	0	1540	0	0
228	510	0	0	2465	0	0
242	273	382	0	1476	992	0
256	191	0	0	1127	0	0
270	255	191	0	1613	120	0
284	573	0	1530	4067	0	24
296	491			3518		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	3538	2080	520	12288	5042	645
47	258	200	133	896	486	168
75	588	162	15	2042	394	18
164	9547	1300	344	19263	3152	426
181	4318	218	0	16533	452	0
185	3060	267	95	10627	783	77
192	3060	344	0	9443	1041	0
206	4896	153	47	17004	436	38
220	3366	717	23	14085	1536	19
234	447	0	47	2289	0	8
248	605	573	114	2927	1293	9
262	554	956	191	3712	378	9
276	956		286	6651		52
290	1530			10920		
348	1434	191	76	4981	463	94

Density listing for Lake 223
Calanoids N1

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	4634			33077		
126	17023	1071	684	31712	2105	2275
140	22188	2782	0	31366	11105	0
156	2486	191	286	8635	463	341
168	625	0	0	2822	0	0
182	127	0	0	516	0	0
189	588	0	0	3012	0	0
203	318	0	0	1540	0	0
217	0		0	0		0
231	382		430	2255		512
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	191	0	0	664	0	0
76	4208	4973	3596	14613	12054	4459
125	4303	2295	239	14945	3122	554
138	459	573	54	1920	700	95
152	286	0	0	996	0	0
166	2086	218	0	9407	397	0
180	286	0	0	1386	0	0
194	382	122	0	1032	491	0
208	1275	573	0	6163	1066	0
222	828	153	127	4006	324	25
236	218	0	0	1181	0	0
250	540		0	3300		0
264	42		0	268		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	95	0	0	332	0	0
67	478	960	382	1660	2086	304
130	163			1172		
144	612	382	0	2561	467	0
158	9181	286	0	31885	695	0
172	3213	510	382	17445	973	480
186	382	0	0	1848	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	63	0	0	308	0	0
242	54	191	0	295	296	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	143	0	765	1016	0	42
296	163			1172		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	63	0	0	80
75	191	95	229	664	231	284
164	7396	1052	688	25684	2550	853
181	1150	109	0	4556	225	0
185	573	76	0	1992	218	0
192	546	0	0	1686	0	0
206	1338	459	191	4649	1309	155
220	1071	191	95	4481	409	77
234	294	0	0	1506	0	0
248	446	191	765	2157	431	37
262	153	0	0	1024	0	0
276	0		0	0		0
290	117			840		
348	0	0	229	0	0	284

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	9997			71353		
126	32899	6732	1449	61287	13233	4819
140	24483	2434	437	34610	9717	764
156	4686	95	286	16274	231	341
168	1182	0	0	5331	0	0
182	382	344	0	1848	730	0
189	1177	0	0	6025	0	0
203	318	0	0	1540	0	0
217	983		0	5317		0
231	382		0	2255		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	117	0		502	0	
301	122	0		664	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	95	76	0	231	94
76	9276	8703	4973	32215	21095	6167
125	6790	4016	334	27580	5464	776
139	1224	758	94	5122	1635	95
152	191	0	0	664	0	0
166	6259	437	0	28223	794	0
180	286	0	0	1386	0	0
194	1402	0	0	7785	0	0
208	573	0	191	2773	0	88
222	1275	0	127	6163	0	65
236	1766	191	127	7284	296	65
250	1750		69	8251		72
264	170		0	1075		0
278	0		0	0		0
292	54			390		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	95	95	0	332	231	0
41	95	95	0	332	231	0
67	1530	1052	573	5313	2550	456
130	327			2345		
144	229	382	109	960	467	191
158	7746	0	63	26901	0	80
172	7192	3825	127	30092	6551	160
186	2040	255	306	9861	780	253
200	153	153	0	640	389	0
216	127	0	0	616	0	0
228	191	0	0	924	0	0
242	109	0	0	590	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	143	0	0	1016	0	0
296	109			781		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	76	0	0	94
47	0	95	127	0	231	160
75	860	669	382	2989	1622	474
164	15812	1817	841	54911	4404	1043
181	2550	546	0	9763	1130	0
185	286	229	0	996	654	0
192	874	153	0	2698	462	0
206	3060	688	191	10627	1964	155
220	1836	765	0	7683	1638	0
234	529	0	0	2711	0	0
248	510	446	1530	2465	1006	75
262	306	382	765	2048	151	37
276	0		0	0		0
290	58			420		
348	478	191	229	1660	463	284

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	595			4252		
126	38255	12394	3342	71264	24362	11111
140	41315	5399	437	58405	25542	764
156	3825	478	191	13284	1159	227
168	2434	529	459	10975	1366	30
182	765	0	0	3697	0	0
189	706	0	191	3615	0	12
203	318	0	0	1540	0	0
217	546		0	2953		0
231	95		0	563		0
245	95	0		563	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	2486	1338	318	8635	3245	1138
125	5929	3060	478	20591	4163	1109
139	1300	1912	0	5442	2335	0
152	0	0	0	0	0	0
166	5564	695	0	25087	1191	0
180	1147	0	0	5546	0	0
194	1657	122	0	4474	491	0
208	446	0	0	2157	0	0
222	191	153	0	924	724	0
236	819	95	0	4430	748	0
250	495		69	3025		0
264	212		0	1344		0
278	56		0	404		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	95	76	0	231	94
41	0	95	0	0	231	0
67	95	95	0	332	231	0
130	300			2150		
144	459	0	0	1920	0	0
158	2295	286	0	7970	696	0
172	10482	10946	255	43857	19780	120
186	2932	255	0	14176	780	0
200	153	153	0	640	389	0
216	0	0	0	0	0	0
228	63	0	0	308	0	0
242	163	0	0	886	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	765	382	0	37	0
296	54			390		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	382	286	0	1328	695	0
47	95	0	63	332	0	80
75	286	95	76	996	231	94
164	7778	765	229	27012	1854	284
181	5610	437	0	21480	904	0
185	1817	153	0	6310	436	0
192	985	0	0	3055	0	0
206	3156	306	0	10960	833	0
220	1685	382	0	7042	819	0
234	255	0	0	1205	0	0
248	127	63	382	616	143	189
262	114	0	0	768	0	0
276	0		0	0		0
290	117			540		
348	382	191	153	1328	463	189

Density listing for Lake 223
Calanoids N4

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	42463	21882	3302	79103	43010	10977
140	30094	8207	218	42542	32760	382
156	3347	1625	0	11624	3940	0
168	1530	0	306	6899	0	20
182	510	0	0	2465	0	0
189	235	0	382	1205	0	24
203	63	0	0	308	0	0
217	546		0	2953		0
231	382		0	2255		0
245	95	0		563	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	191	0	0	664	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	95	95	76	332	231	94
125	5164	3825	286	17934	5204	665
138	1071	1147	54	4481	1401	95
152	191	215	0	664	521	0
166	1669	218	0	7526	397	0
180	573	0	0	2773	0	0
194	1657	368	573	4474	1473	255
208	63	0	0	308	0	0
222	0	0	0	0	0	0
236	109	0	0	590	0	0
250	225		0	1175		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	286	0	0	996	0	0
130	218			1563		
144	459	0	0	1920	0	0
158	1052	95	0	3653	231	0
172	6503	12496	127	27210	21400	160
186	2932	1530	0	14175	2285	0
200	153	0	382	640	0	176
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	163	0	0	886	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	109			781		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	382	0	0	1328	0	0
47	0	0	63	0	0	80
75	0	0	0	0	0	0
164	892	765	153	3099	1854	189
181	10881	5792	306	41658	11981	379
185	4590	306	191	15941	873	155
192	2186	612	0	6745	1851	0
206	1243	76	0	4317	218	0
220	1147	0	0	4801	0	0
234	0	0	0	0	0	0
248	255	127	0	1232	287	0
262	114	0	0	768	0	0
276	0		0	0		0
290	0			0		
348	95	0	0	332	0	0

Density listing for Lake 223
Calanoids N5

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	3224	2448	402	15321	4812	1338
140	26778	6190	218	37855	24709	382
156	2773	1530	191	9631	3709	227
168	1530	1059	0	6899	2732	0
182	1275	688	255	6163	1461	50
189	353	0	191	1807	0	42
203	127	0	0	616	0	0
217	546		0	2953		0
231	382		0	2255		0
245	95	0		563	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	6407	6120	534	22252	3527	776
138	459	2677	54	1920	3270	36
152	0	0	0	0	0	0
166	556	218	0	2508	397	0
180	573	0	0	2773	0	0
194	3698	614	0	9980	2455	0
208	127	0	0	616	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	45		0	275		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	95	0	0	332	0	0
67	95	0	0	332	0	0
130	464			3322		
144	612	191	54	2561	253	36
158	573	0	0	1992	0	0
172	1912	5610	382	8003	3608	480
186	5228	510	0	25268	761	0
200	765	153	0	3201	381	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	191	0	0	1127	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	109			781		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	127	95	76	442	231	34
181	5270	437	306	20178	904	379
185	2486	153	0	8635	436	0
192	3169	918	0	9781	2777	0
206	1338	76	0	4649	218	0
220	535	286	0	2240	614	0
234	98	0	0	301	0	0
248	63	0	0	308	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	95	0	0	332	0	0

Density listing for Lake 223
Calanoids N6

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	53557	3964	218	75711	15825	382
156	5642	1625	382	19595	3940	955
168	486	0	0	2195	0	0
182	892	384	0	4314	730	0
189	353	0	0	1807	0	0
203	63	0	0	308	0	0
217	218		245	1181		429
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	7938	3060	430	27566	4163	998
138	306	191	0	1280	253	0
152	478	0	0	1660	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	1530	0	0	4129	0	0
208	63	0	0	308	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	35	0	0	231	0
41	0	35	0	0	231	0
67	0	0	0	0	0	0
130	710			5081		
144	0	0	0	0	0	0
158	1147	35	0	3985	231	0
172	1530	1530	0	6402	2620	0
186	510	0	0	2465	0	0
200	153	0	191	640	0	88
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	109			781		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	1190	655	0	4556	1356	0
195	765	0	0	2656	0	0
192	218	0	0	674	0	0
206	956	76	0	3321	218	0
220	153	0	0	640	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0		0	0	
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density listing for Lake 223
Calanoids C1

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	70900	7164	437	100227	28596	764
156	9468	2295	1243	32880	9563	1480
168	2643	264	459	11916	683	30
182	2550	0	255	12326	0	50
189	1412	0	191	7230	0	12
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	7651	6885	478	26569	3568	1109
138	1147	382	0	4801	467	0
152	2008	960	0	6974	2086	0
166	139	0	0	627	0	0
180	0	0	0	0	0	0
194	992	122	0	2409	491	0
208	63	0	0	308	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	35	0	0	332	0	0
41	35	0	76	332	0	44
67	0	0	0	0	0	0
130	21			198		
144	0	0	0	0	0	0
158	35	0	0	332	0	0
172	2065	1020	0	8643	1747	0
186	510	0	0	2465	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	153	229	114	531	856	142
181	884	43	0	3384	90	0
195	459	0	0	1594	0	0
192	131	0	0	404	0	0
206	344	38	0	1195	109	0
220	30	0	0	128	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	19	0	0	128	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density listing for lake 223
Calanoids C2

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	1020	0	0	1442	0	0
156	14154	4303	1052	49154	10431	1253
168	7303	794	1071	32927	2049	70
182	1147	0	0	5546	0	0
189	823	312	0	4218	616	0
203	382	0	191	1848	0	12
217	0		0	0		0
231	573		0	3383		0
245	95	0		563	0	
259	0	0	191	0	0	12
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	1243	765	47	4317	1040	110
138	4820	2677	109	20168	3270	191
152	382	430	0	1328	1043	0
166	2225	0	0	10095	0	0
180	286	0	0	1386	0	0
194	0	0	0	0	0	0
208	382	0	0	1848	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	76	0	0	94
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	478	0	0	1660	0	0
172	994	1020	0	4161	1747	0
186	3060	255	153	14791	380	126
200	153	0	0	640	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	267	153	153	929	370	189
181	170	87	0	650	180	0
195	114	76	0	398	218	0
192	480	76	0	1484	231	0
206	344	76	0	1195	218	0
220	30	0	0	128	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density listing for lake 223
Calanoids C3

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	33473	19701	2295	116243	47754	2733
168	29213	2138	2754	131711	5464	181
182	11604	1377	510	56084	2922	100
189	5767	3442	573	29526	6777	37
203	1275	573	191	6163	1293	12
217	109		245	590		429
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	127	127		616	287	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	47	0	0	110
138	2830	2104	163	11844	2569	286
152	1817	645	0	6310	1564	0
166	2921	655	0	13171	1191	0
180	573	1721	255	2773	1830	320
194	127	122	0	344	491	0
208	382	0	0	1848	0	0
222	63	0	0	308	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	95	0	0	231	0
130	0			0		
144	0	0	0	0	0	0
158	478	0	0	1660	0	0
172	382	255	0	1600	436	0
186	1147	255	0	5546	380	0
200	1224	153	191	5122	785	98
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	63	0	0	80
75	0	0	0	0	0	0
164	497	38	0	1727	32	0
181	374	262	76	1432	542	94
195	306	114	0	1062	327	0
192	393	114	0	1214	347	0
206	497	306	47	1727	873	38
220	397	358	0	1664	768	0
234	23	85	47	120	156	8
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density listing for Lake 223
Calanoids C4

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	2773	1147	191	9631	2781	227
168	11267	1589	918	50803	4098	60
182	20147	5164	1275	97377	10959	252
189	19304	10328	1530	98822	20332	99
203	9563	11476	1530	46223	25874	99
217	13006		14263	70304		24929
231	4686		2151	27633		2562
245	1147	0		6767	0	
259	0	0	191	0	0	12
273	127	0		616	0	
287	117	0		602	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	229	0	0	960	0	0
152	1243	645	0	4317	1564	0
166	1391	874	0	6271	1588	0
180	5451	860	892	26347	915	1121
194	2932	2459	0	7915	9820	0
208	1795	2486	0	8628	4623	0
222	318	1071	127	1540	2275	25
236	273	286	382	1476	444	75
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	382	0	0	304
130	27			195		
144	0	0	0	0	0	0
158	286	0	0	996	0	0
172	229	255	127	960	436	160
186	1020	255	0	4930	380	0
200	765	918	382	3201	2302	176
216	2295	1338	0	11093	2489	0
228	510	191	0	2465	355	0
242	0	0	0	0	0	0
256	191	255	0	1127	270	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	95	0	0	332	0	0
47	0	0	63	0	0	80
75	0	0	0	0	0	0
164	229	153	0	797	370	0
181	408	87	0	1562	180	0
185	191	191	0	664	545	0
192	524	267	0	1618	810	0
206	650	1491	259	2258	4256	195
220	1775	597	0	7426	1280	0
234	588	1955	0	3012	3590	0
248	0	63	0	0	143	0
262	0	0	0	0	0	0
276	34		0	241		0
290	0			0		
348	0	0	76	0	0	94

Density listing for Lake 223
Calanoids C5

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	286	95	0	996	231	0
168	1391	0	459	6271	0	30
182	382	0	0	1848	0	0
189	588	312	0	3012	616	0
203	2104	860	0	10169	1940	0
217	7104		5410	38401		9855
231	13006		10759	76696		12814
245	19127	8990		112788	10707	
259	23240	23717	5929	155531	9375	387
273	9308	2040		44991	4599	
287	353	235		1807	474	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	382	0	0	1328	0	0
166	973	218	0	4390	397	0
180	286	0	127	1386	0	160
194	1020	0	1147	2753	0	510
208	1147	573	0	9546	1066	0
222	255	765	127	1232	1623	25
236	874	956	510	4726	1482	100
250	675		0	4135		0
264	907		153	5108		126
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	76	0	0	320	0	0
158	1052	0	0	3653	0	0
172	229	0	0	960	0	0
186	255	0	0	1232	0	0
200	153	0	0	640	0	0
216	255	382	0	1232	711	0
228	2040	1338	109	8861	2489	49
242	2459	382	0	13292	592	0
256	1243	0	0	7331	0	0
270	170	191	0	1075	120	0
284	0	0	0	0	0	0
296	54			390		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	76	0	0	94
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	612	38	76	2125	92	94
181	204	43	0	781	90	0
185	76	38	0	265	109	0
192	131	76	0	404	231	0
206	344	133	0	1195	381	0
220	397	119	0	1664	256	0
234	517	680	478	2651	1248	86
248	988	1625	420	4776	3665	20
262	860	765	38	5760	302	1
276	104		47	725		8
290	0			0		
348	95	0	0	332	0	0

Density listing for Lake 223
Tropocyclops prasinus mexicanus

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	66			472		
126	191	0	0	356	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	191	0	0	664	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	95	76	0	231	94
41	0	95	76	0	231	94
76	0	95	153	0	231	189
125	95	0	0	332	0	0
138	0	191	0	0	233	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	191	0	0	664	0	0

Density listing for Lake 223
Mesocyclops edax

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	191	0	0	356	0	0
140	255	64	0	360	277	0
156	478	0	0	1660	0	0
168	625	0	0	2822	0	0
182	127	0	0	616	0	0
189	117	0	0	602	0	0
203	63	0	0	308	0	0
217	327		0	1772		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	127	255		616	574	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	229	0	0	960	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	127	191	0	616	355	0
222	63	765	127	308	1623	25
236	2568	1052	127	13883	1630	25
250	1080		347	6600		362
264	1742		382	11024		316
278	396		765	2834		6
292	163			1172		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	153	0	0	640	0	0
216	127	0	0	616	0	0
228	1338	191	0	6471	355	0
242	1530	956	382	8271	1482	75
256	2104	255	0	12406	270	0
270	680	191	0	4302	120	0
284	860	3060	1530	6100	150	24
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	34	0	76	130	0	94
85	76	38	0	265	109	0
192	87	114	0	269	347	0
206	306	172	47	1062	491	38
220	918	621	47	3841	1331	38
234	1459	2380	478	7471	4370	86
248	318	828	114	1540	1868	5
262	765	1338	114	5120	529	5
276	1165		1291	8103		234
290	353			2520		
348	0	0	0	0	0	0

Density listing for Lake 223
Cyclops bicuspidatus thomasi

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	2251			16066		
126	1147	1530	281	2137	3007	937
140	0	1182	327	0	4719	573
156	0	286	956	0	695	1139
168	0	2383	765	0	6147	50
182	0	4820	510	0	10229	100
189	0	7511	956	0	14787	62
203	127	8607	3825	616	19405	249
217	327		17460	1772		30516
231	95		19366	563		23066
245	382	2677		2255	3189	
259	0	1530	191	0	604	12
273	892	637		4314	1437	
287	823	588		4218	1187	
301	2336	546		12628	955	
344	1338	3060	3895	4649	7418	4862

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	2295	1052	3519	7970	2550	4364
41	2008	2390	2524	6974	5795	3131
76	191	765	1147	664	1854	1423
125	191	956	1243	664	1301	2884
138	0	191	546	0	233	955
152	0	645	430	0	1564	540
166	0	1530	3442	0	2780	2848
180	2869	860	1912	13867	915	2403
194	0	1598	8607	0	6383	3825
208	0	4973	1243	0	9246	572
222	0	3060	2040	0	6494	403
236	0	5164	255	0	8005	50
250	0		1669	0		1739
264	0		688	0		569
278	113		255	809		2
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	191	573	459	664	1390	569
41	191	95	229	664	231	284
67	0	0	382	0	0	304
130	245			1759		
144	76	0	109	320	0	191
158	0	382	191	0	927	240
172	0	0	765	0	0	961
186	127	0	612	616	0	506
200	153	1071	956	640	2686	440
216	0	1147	255	0	2133	113
228	0	5164	1639	0	9601	741
242	0	8990	1785	0	13935	352
256	382	3060	191	2255	3240	34
270	170	2295	382	1075	1445	75
284	430	2295	382	3050	112	6
296	54			390		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	5690	8320	4514	19761	20168	5598
47	1970	2381	2665	6841	5772	3348
75	913	2113	2333	3171	5123	2894
164	0	688	1606	0	1669	1992
181	0	2492	2754	0	5154	3415
185	38	1568	6216	132	4474	5042
192	0	1453	5049	0	4397	5220
206	0	784	1817	0	2237	1473
220	122	526	884	512	1126	717
234	0	8501	1338	0	15608	2[illegible]
248	31	3729	1262	154	8409	62
262	0	40168	7421	0	15878	364
276	991		2486	6893		451
290	1118			7980		
348	669	1338	4590	2324	3245	5693

Density listing for Lake 223
Cyclopoids N1

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	3840			27407		
126	765	9181	926	1425	18046	3079
140	0	4590	0	0	18323	0
156	1625	2390	860	5646	5795	1025
168	347	1589	459	1567	4098	30
182	0	688	0	0	1461	0
189	117	312	0	602	616	0
203	0	860	382	0	1940	24
217	218		1229	1181		2149
231	0		11620	0		13840
245	95	10711		563	12758	
259	860	765	0	5760	302	0
273	892	3187		4314	7187	
287	353	470		1807	949	
301	860	109		4652	191	
344	382	191	278	1328	463	347

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1147	3347	2983	3985	8113	3700
41	191	382	1377	664	927	1707
76	1052	1338	2218	3653	3245	2751
125	956	1530	765	3321	2081	1774
138	153	765	983	640	934	1719
152	95	0	430	332	0	540
166	0	437	3787	0	794	3133
180	2295	1721	637	11093	1830	801
194	0	860	13771	0	3437	6120
208	0	1530	2008	0	2844	925
222	191	5202	3060	924	11040	604
236	109	3538	510	590	5485	100
250	45		1460	275		1521
264	127		1147	806		949
278	453		765	3239		6
292	109			781		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	286	459	0	695	569
41	0	95	459	0	231	569
67	0	286	1721	0	695	1369
130	191			1368		
144	0	191	54	0	233	95
158	0	191	127	0	463	160
172	0	255	382	0	436	480
186	0	1020	1530	0	1522	1265
200	153	612	1338	640	1535	616
216	0	1530	1275	0	2844	566
228	63	4016	1202	308	7468	544
242	109	8416	3315	590	13045	655
256	95	6885	191	563	7290	34
270	425	1338	255	2688	843	50
284	860	1530	382	6100	75	6
296	163			1172		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	95	573	76	332	1390	94
47	191	478	2359	664	1159	2963
75	860	1147	1300	2989	2781	161[illegible]
164	0	1243	7574	0	3013	9393
181	340	0	5967	1301	0	7401
185	573	153	22570	1992	436	18308
192	218	306	4437	674	925	4587
206	1912	153	2869	6642	436	2327
220	382	286	382	1600	614	310
234	117	3910	956	602	7180	173
248	191	701	382	924	1581	18
262	344	765	0	2304	302	0
276	869		2486	6047		451
290	1589			11340		
348	0	0	153	0	0	189

Density listing for Lake 223
Cyclopoids N2

1980

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
78	11918			85056		
126	382	5508	2416	712	10827	8032
140	0	5147	3716	0	20545	6494
156	669	3156	3442	2324	7650	4100
168	1043	2913	918	4703	7513	60
182	510	1721	765	2465	3653	151
189	117	1564	0	602	3080	0
203	0	1147	0	0	2587	0
217	1420		2213	7680		3868
231	191		5164	1127		6151
245	191	11667		1127	13897	
259	3787	4590	1147	25345	1814	74
273	3442	6503		16640	14661	
287	1883	1059		9641	2137	
301	1475	327		7975	573	
344	1530	1530	1530	5313	3709	1910

1981

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	3634	2008	8186	12620	4868	10153
41	2199	1817	4820	7638	4404	5977
76	1530	2104	5355	5313	5100	6642
125	669	1530	860	2324	2081	1996
138	76	956	2459	320	1167	429
152	0	215	1004	0	521	1261
166	139	0	4820	627	0	3987
180	3156	2582	1657	15253	2746	2082
194	0	1967	37299	0	7856	16577
208	1530	9755	7938	7395	18136	3656
222	828	11629	13516	4006	24679	2671
236	983	24866	2040	5317	38543	403
250	225		11337	1375		11811
264	637		8186	4033		6772
278	1360		3570	9718		31
292	163			1172		

1982

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	191	286	306	664	695	379
41	765	382	459	2656	927	569
67	286	1912	2869	996	4636	2283
130	409			2931		
144	76	765	327	320	934	573
158	0	956	446	0	2318	560
172	0	255	1402	0	436	1762
186	0	2550	2754	0	3806	2278
200	1836	6273	4781	7683	15736	2202
216	318	13006	6375	1540	24182	2833
228	573	30604	5466	2773	56899	2473
242	163	33091	11604	886	51292	2293
256	1052	27033	573	6203	28620	104
270	1700	2869	510	10755	1806	100
284	1434	2295	1530	10167	112	24
296	382			2736		

1983

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
12	286	478	76	996	1159	94
47	669	765	1849	2324	1854	2322
75	382	573	612	1328	1390	759
164	0	286	6503	0	695	8065
181	170	0	12547	650	0	15561
185	1147	229	29839	3985	654	24204
192	437	306	15455	1349	925	15976
206	1817	1989	5547	6310	5675	4499
220	1836	1338	2104	7683	2867	1706
234	647	8161	2869	3314	14984	520
248	63	2550	1530	308	5749	75
262	191	2295	765	1280	907	37
276	660		17214	4595		3124
290	6120			43683		
348	95	286	2142	332	695	2656

Density listing for Lake 223
Cyclopoids N3

1980

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
78	13705			97815		
126	191	4590	2939	356	9023	9772
140	0	3547	4153	0	14159	7259
156	286	1147	6120	996	2781	7290
168	973	9269	2601	4390	23906	171
182	892	5853	510	4314	12420	100
189	470	3442	191	2410	6777	12
203	0	1147	191	0	2587	12
217	765		1475	4135		2578
231	95		8177	563		9739
245	0	9181		0	10935	
259	3787	6503	2486	25345	2570	162
273	4208	10711		20338	24149	
287	2589	2118		13256	4274	
301	1229	437		6646	764	
344	1147	382	1808	3985	927	2257

1981

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	5164	3634	11935	17934	8809	14802
41	5164	4303	6809	17934	10431	8445
76	2773	2295	7957	9631	5563	9868
125	286	1338	908	996	1821	2107
138	0	191	2186	0	233	3820
152	0	215	3873	0	521	4866
166	0	218	8263	0	397	6836
180	3156	0	2677	15253	0	3364
194	255	3074	25822	688	12276	11476
208	1593	7077	4399	7703	13157	2026
222	765	12241	14027	3697	25978	2772
236	1311	38351	1912	7089	59446	378
250	540		15163	3300		15796
264	680		6197	4302		5127
278	1416		5100	10123		44
292	437			3127		

1982

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	191	0	0	664	0	0
41	382	95	153	1328	231	189
67	573	765	2295	1992	1854	1826
130	327			2345		
144	153	0	491	640	0	859
158	0	95	255	0	231	320
172	0	0	1275	0	0	1602
186	0	255	1836	0	380	1519
200	4437	4743	1912	18567	11898	880
216	892	8033	1530	4314	14936	680
228	573	14537	2841	2773	27027	1285
242	437	29456	9818	2363	45659	1940
256	286	17342	573	1691	18360	104
270	1785	4781	1020	11292	3010	201
284	2295	4590	2295	16268	225	37
296	437			3127		

1983

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
12	286	286	0	996	695	0
47	478	478	573	1660	1159	720
75	286	478	306	996	1159	379
164	0	0	4973	0	0	6167
181	170	0	6732	650	0	8350
185	478	76	18171	1660	218	14739
192	218	612	18362	674	1851	18982
206	2486	1912	5355	8635	5457	4344
220	2983	1912	2390	12485	4096	1939
234	411	5440	1530	2109	9989	277
248	318	3825	1147	1540	8624	56
262	306	2486	765	2048	982	37
276	869		28882	6047		5242
290	5708			40743		
348	765	382	3825	2656	927	4744

Density listing for Lake 223
Cyclopoids N4

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	13440			95925		
126	0	7498	3020	0	14737	10040
140	0	2225	4153	0	8884	7259
156	573	1338	6599	1992	3245	7859
168	208	16155	2754	940	41665	181
182	255	18592	1020	1232	39454	201
189	706	9076	382	3615	17867	24
203	63	2008	573	308	4527	37
217	109		2705	590		4727
231	95		2582	563		3075
245	382	5355		2255	6379	
259	2582	4590	1338	17281	1814	87
273	2932	7141		14175	16099	
287	1765	1294		9038	2612	
301	1598	546		8640	955	
344	3825	2677	6399	13284	6490	7987

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	8416	4877	9028	29226	11822	11196
41	8416	8033	9793	29226	19472	12145
76	6885	6120	10482	23912	14836	12999
125	1721	1147	1195	5978	1561	2773
138	0	0	1420	0	0	2483
152	191	215	4447	664	521	5587
166	0	0	13083	0	0	10823
180	4016	3442	2422	19413	3661	3043
194	127	1721	17788	344	6874	7906
208	1657	4399	1625	8012	8179	748
222	1083	4783	4208	5238	10066	831
236	2404	18936	2550	12997	29352	504
250	630		13006	3850		13550
264	552		4590	3495		3797
278	623		3060	4454		26
292	218			1563		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	76	0	0	94
41	286	95	0	996	231	0
67	478	286	382	1660	695	304
130	245			1759		
144	0	573	546	0	700	955
158	0	191	191	0	463	240
172	0	0	1020	0	0	1281
186	0	255	1377	0	380	1139
200	1683	1224	795	7042	3070	352
216	765	1912	1020	3697	3556	453
228	127	2486	437	616	4623	197
242	327	9372	2932	1772	14528	579
256	765	16067	382	4511	17010	69
270	2295	4590	1147	14519	2890	226
284	3012	3825	3060	21352	187	49
296	655			4690		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	382	95	153	1328	231	189
47	765	1243	1211	2656	3013	1521
75	478	1052	535	1660	2550	664
164	0	95	8722	0	231	10817
181	340	327	6579	1301	678	8160
185	860	306	26778	2989	873	21721
192	546	1071	11782	1686	3240	12180
206	2486	1530	2104	8635	4365	1706
220	4437	2486	1434	18567	5325	1163
234	1118	3400	382	5724	6243	69
248	956	2741	382	4622	6181	18
262	306	1147	765	2048	453	37
276	139		19127	967		3472
290	3237			23101		
348	669	860	2065	2324	2086	2561

Density listing for Lake 223
Cyclopoids N5

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	10660			76078		
126	382	7804	3865	712	15339	12852
140	0	5981	5027	0	23876	8787
156	191	956	14250	664	2318	16972
168	139	10064	1224	627	25955	80
182	255	7230	510	1232	15343	100
189	823	8763	382	4218	17251	24
203	0	3729	1338	0	8409	37
217	0		2951	0		5157
231	0		3442	0		4100
245	191	2295		1127	2733	
259	1205	2295	382	8064	907	24
273	1530	4463		7395	10062	
287	2236	1530		11448	3087	
301	360	109		4652	191	
344	1338	765	1147	4649	1854	2431

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1721	1052	3136	5978	2550	3890
41	860	2390	3519	2989	5795	4364
76	4208	3825	6273	14613	9272	7780
125	1147	1147	478	3585	1561	1109
138	0	0	601	0	0	1050
152	0	0	860	0	0	1081
166	0	0	3607	0	0	7120
180	2295	1721	1020	11093	1830	1281
194	255	860	8033	688	3437	3570
208	1338	1721	478	6471	3200	220
222	637	2754	1912	3081	5845	378
236	1420	4399	510	7680	6819	100
250	765		4103	4675		427
264	212		1606	1344		1329
278	453		1275	3239		11
292	327			2345		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	191	191	382	664	463	474
67	382	478	573	1328	1159	456
130	136			377		
144	0	0	163	0	0	286
158	0	191	127	0	463	160
172	0	255	637	0	436	801
186	0	255	765	0	380	532
200	1377	612	956	5762	1535	440
216	765	765	1020	3697	1422	453
228	255	2869	218	1232	5334	98
242	273	3634	1020	1476	5633	201
256	286	9946	191	1691	10530	34
270	595	2486	0	3764	1565	0
284	1434	2295	1147	10167	112	18
296	218			1563		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	95	95	76	332	231	94
47	95	191	573	332	463	720
75	573	382	688	1992	927	853
164	0	95	3672	0	231	4554
181	170	874	4437	650	1803	5503
185	382	382	8798	1328	1091	7137
192	109	306	4284	337	925	4429
206	573	1300	1338	1992	3710	1086
220	2065	765	573	8643	1638	465
234	941	3060	956	4820	5619	173
248	510	4463	2677	2465	10062	131
262	344	2869	765	2304	1134	37
276	312		15876	2176		2881
290	1235			8820		
348	860	286	765	2989	695	948

Density listing for Lake 223
Cyclopoids N6

1980

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
78	993			7088		
126	191	7651	3865	356	15038	12852
140	0	12311	4809	0	49141	8405
156	0	6120	9659	0	14836	11505
168	0	5561	612	0	14343	40
82	0	2754	0	0	5845	0
189	235	3755	765	1205	7393	49
203	0	2008	382	0	4527	24
217	0		2705	0		4727
231	0		860	0		1025
245	0	191		0	227	
259	0	0	0	0	0	0
273	255	510		1232	1149	
287	353	588		1807	1187	
301	368	327		1993	573	
344	956	0	956	3321	0	694

1981

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
13	286	573	765	996	1390	948
41	860	382	994	2989	927	1233
76	1052	860	2142	3653	2086	26
125	1434	956	143	4981	1301	332
138	0	382	655	0	467	1146
152	0	215	860	0	521	1081
166	0	0	4131	0	0	3418
180	860	0	255	4160	0	320
194	127	368	6312	344	1473	2805
208	1466	765	478	7087	1422	220
222	446	1071	892	2157	2273	176
236	601	956	382	3249	1482	75
250	765		834	4675		869
264	255		765	1613		632
278	113		510	809		4
292	109			781		

1982

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
13	0	95	76	0	231	94
41	95	191	153	332	463	189
67	382	382	382	1328	927	304
130	409			2931		
144	459	191	0	1920	233	0
158	0	286	0	0	695	0
172	0	255	382	0	436	480
186	0	510	306	0	761	253
200	612	306	191	2561	767	88
216	956	765	0	4622	1422	0
228	318	382	0	1540	711	0
242	546	956	510	2953	1482	100
256	286	3060	0	1691	3240	0
270	170	956	127	1075	602	25
284	860	3060	382	6100	150	6
296	273			1954		

1983

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
12	0	191	0	0	463	0
47	0	0	0	0	0	0
75	0	0	153	0	0	189
164	0	0	1377	0	0	1707
181	0	327	4131	0	678	5123
185	0	0	5164	0	0	4189
192	0	1224	2295	0	3703	2372
206	0	459	0	0	1309	0
220	153	0	95	640	0	77
234	0	850	0	0	1560	0
248	127	2422	765	616	5462	37
262	229	1912	1530	1536	756	75
276	173		9755	1209		1770
290	353			2520		
348	95	0	0	332	0	0

Density listing for Lake 223
Cyclopoids C1

1980

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
78	331			2362		
126	573	1071	80	1068	2105	267
140	2805	17597	874	3965	70241	1528
156	191	6025	4399	664	14604	5239
168	556	9004	1683	2508	23223	111
182	255	3787	765	1232	8037	151
189	0	1877	573	0	3696	37
203	0	573	0	0	1293	0
217	0		737	0		1289
231	191		0	1127		0
245	191	0		1127	0	
259	172	382	0	1152	151	0
273	127	0		616	0	
287	470	235		2410	474	
301	737	0		3987	0	
344	1338	382	973	4649	927	1215

1981

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
13	1243	286	1759	4317	695	2182
41	382	478	612	1328	1159	759
76	478	860	382	1660	2086	474
125	3538	1912	334	12288	2602	776
138	76	1912	601	320	2335	1050
152	0	215	286	0	521	360
166	0	695	5164	0	1191	4272
180	1721	0	382	8320	0	480
194	0	614	1147	0	2455	510
208	1402	765	478	6779	1422	220
222	1593	612	637	7703	1298	126
236	1803	382	0	9748	592	0
250	765		208	4675		217
264	637		153	4033		126
278	226		1020	1619		8
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	286	95	191	996	231	152
130	245			1759		
144	1453	191	0	6082	233	0
158	0	0	0	0	0	0
172	0	510	0	0	573	0
186	0	765	459	0	1141	379
200	0	612	382	0	1535	176
216	1721	0	0	8320	0	0
228	255	191	0	1232	355	0
242	491	191	255	2658	296	50
256	286	255	0	1691	270	0
270	255	0	0	1613	0	0
284	143	765	382	1016	37	6
296	54			390		

1983

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
12	191	95	153	664	231	189
47	0	0	63	0	0	30
75	95	95	229	332	231	284
164	118	803	1912	398	1947	2372
181	51	4590	5891	195	9494	7306
185	229	2716	2390	797	7749	1939
192	131	1912	229	404	5786	237
206	420	267	143	1461	763	116
220	1622	526	23	6786	1126	19
234	918	255	47	4700	468	8
248	478	605	229	2311	1365	11
262	363	573	153	2432	226	7
276	312		3203	2176		581
290	411			2940		
348	0	0	0	0	0	0

Density listing for Lake 223
Cyclopoids C2

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	132			945		
126	191	153	0	356	300	0
140	4080	17041	2623	5768	68020	4584
156	860	4303	7555	2989	10431	9998
168	347	9534	1836	1567	24589	121
182	255	5853	1020	1232	12420	201
189	235	4694	765	1205	9241	49
203	0	860	382	0	1940	24
217	109		983	590		1719
231	95		860	563		1025
245	191	191		1127	227	
259	172	0	191	1152	0	12
273	0	127		0	287	
287	0	235		0	474	
301	122	109		664	191	
344	191	191	695	664	463	868

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	956	1052	2524	3321	2550	3131
41	478	669	765	1660	1622	948
76	191	286	0	664	695	0
125	3538	3634	143	12288	4944	332
138	76	765	382	320	934	668
152	0	860	860	0	2086	1081
166	278	218	1377	1254	397	1139
180	573	1721	892	2773	1830	1121
194	0	368	1721	0	1473	765
208	828	191	95	4006	355	44
222	1466	612	510	7087	1298	10
236	1147	573	127	6203	889	25
250	495		69	3025		72
264	765		153	4839		126
278	170		510	1214		4
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	95	0	0	332	0	0
41	95	0	76	332	0	94
57	0	0	0	0	0	0
130	54			390		
144	2142	382	0	8963	467	0
158	286	191	0	996	463	0
172	0	0	127	0	0	160
186	127	765	0	616	1141	0
200	153	459	382	640	1151	176
216	1275	573	0	6163	1066	0
228	892	0	218	4314	0	98
242	437	191	0	2363	296	0
256	286	0	0	1691	0	0
270	170	191	0	1075	120	0
284	430	765	382	3050	37	6
296	273			1954		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	382	191	153	1328	463	189
47	0	0	127	0	0	160
75	0	0	76	0	0	94
164	76	612	879	265	1483	1091
181	85	3847	2524	325	7957	3131
185	612	3481	3538	2125	9931	2870
192	174	3634	3136	539	10994	3242
206	76	210	621	265	600	504
220	1591	621	71	6658	1331	58
234	612	0	95	3133	0	17
248	446	229	153	2157	503	7
262	363	0	0	2432	0	0
276	330		1338	2297		243
290	647			4620		
348	0	0	76	0	0	94

Density listing for Lake 223
Cyclopoids C3

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	397			2835		
126	0	0	0	0	0	0
140	510	5633	2623	721	22488	4584
156	2773	6503	8703	9631	15763	10365
168	1669	14301	1377	7526	36884	90
182	255	16870	3570	1232	35801	705
189	235	11580	1912	1205	22796	124
203	0	3442	1912	0	7762	124
217	109		737	590		1289
231	0		1721	0		2050
245	95	0		563	0	
259	172	382	0	1152	151	0
273	127	255		616	574	
287	117	117		602	237	
301	122	0		564	0	
344	382	191	139	1328	463	173

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	669	95	2218	2324	231	2751
41	765	478	1224	2656	1159	1518
76	382	669	535	1328	1622	664
125	4399	5355	1052	15277	7286	2440
138	306	1530	1038	1280	1868	1814
152	573	215	430	1992	521	540
166	0	655	688	0	1191	569
180	286	860	255	1386	915	320
194	127	737	7459	344	2946	3315
208	892	191	191	4314	355	88
222	892	918	637	4314	1948	126
236	874	478	0	4726	741	0
250	765		139	4675		144
264	1020		153	6453		126
278	340		0	2429		0
292	163			1172		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	95	0	0	231	0
57	0	0	0	0	0	0
130	54			390		
144	1759	0	0	7362	0	0
158	95	286	0	332	695	0
172	0	0	255	0	0	320
186	255	255	0	1232	380	0
200	0	153	382	0	383	176
216	1912	573	510	9244	1066	226
228	701	382	0	3389	711	0
242	1038	382	0	5612	592	0
256	95	255	0	563	270	0
270	85	0	0	537	0	0
284	143	765	0	1016	37	0
296	218			1563		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	669	382	229	2324	927	284
47	0	0	382	0	0	480
75	0	95	306	0	231	379
164	114	267	918	398	649	1138
181	136	3191	4055	520	6600	5029
185	191	1721	1817	664	4911	1473
192	218	3825	3672	674	11573	3796
206	114	975	2677	398	2783	2172
220	1346	884	334	5634	1894	271
234	1200	510	430	6146	936	78
248	924	892	612	4468	2012	30
262	439	765	382	2944	302	18
276	591		812	4112		147
290	353			2520		
348	0	0	76	0	0	94

Density listing for Lake 223
Cyclopoids C4

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	397			2835		
126	0	153	80	0	300	133
140	0	417	218	0	1665	382
156	2104	5642	16162	7306	13677	19250
168	2017	75216	7345	9094	193984	484
182	510	98125	45651	2465	208233	9023
189	353	53522	8990	1807	105358	586
203	63	24674	10328	308	55629	674
217	327		9099	1772		15903
231	95		3012	563		3588
245	0	382		0	455	
259	0	3825	382	0	1512	24
273	2422	4335		11710	9774	
287	1059	588		5423	1187	
301	491	218		2658	382	
344	765	765	1391	2656	1854	1736

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	191	95	1300	664	231	1613
41	956	286	1683	3321	695	2087
76	382	1052	688	1328	2550	853
125	1530	3251	621	5313	4423	1442
138	765	4208	4044	3201	5138	7068
152	1625	2582	4016	5646	6259	5046
166	0	1093	1377	0	1986	1139
180	860	1721	2167	4160	1830	2723
194	0	491	8607	0	1964	3825
208	0	573	573	0	1066	264
222	637	612	1785	3081	1298	352
236	1639	2008	127	8861	3113	25
250	350		347	2200		362
264	1785		1377	11292		1139
278	2890		3060	20651		26
292	710			5081		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	535	0	0	2240	0	0
158	0	478	1402	0	1159	1762
172	76	510	510	320	873	640
186	0	0	1224	0	0	1012
200	153	306	3251	640	767	1497
216	828	191	2040	4006	355	906
228	1083	573	327	5238	1066	148
242	929	1530	127	5021	2371	25
256	1052	510	0	6203	540	0
270	425	191	255	2688	120	50
284	1434	3825	2295	10167	187	37
296	273			1954		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	1434	286	688	4981	695	853
47	95	95	446	332	231	560
75	0	191	229	0	463	284
164	38	382	2257	132	927	2799
181	34	1923	4208	130	3978	5218
185	0	994	3251	0	2837	2637
192	87	1989	7574	269	6018	7834
206	153	1032	5977	531	2946	4848
220	918	693	3849	3841	1484	3122
234	847	11731	1386	4338	21540	251
248	924	3411	765	4468	7690	37
262	765	6694	1530	5120	2646	75
276	3373		3921	23463		711
290	1235			8820		
348	191	95	306	664	231	379

Density listing for Lake 223
Cyclopoids C5

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	463			3307		
126	765	612	0	1425	1203	0
140	0	208	874	0	832	1528
156	0	1625	6503	0	3940	7745
168	0	36019	9640	0	92894	636
182	127	56794	39275	616	141744	7762
189	0	46949	7459	0	92419	486
203	0	38733	21996	0	87324	1435
217	327		28773	1772		50287
231	0		15063	0		17940
245	191	2677		1127	3189	
259	0	1912	191	0	756	12
273	1020	765		4930	1720	
287	2118	1294		10846	2612	
301	983	546		5317	955	
344	191	382	956	664	927	694

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	286	0	1224	996	0	1518
41	0	191	1989	0	463	2467
76	191	478	535	664	1159	664
125	95	573	669	332	780	1553
138	153	765	1202	640	934	2101
152	95	645	2582	332	1564	3244
166	0	655	3098	0	1191	2563
180	860	2582	2167	4160	2746	2723
194	127	245	9755	344	982	4335
208	191	191	1243	924	355	572
222	701	1224	3698	3389	2597	730
236	1311	2199	382	7089	3409	75
250	405		1460	2475		1521
264	467		841	2957		696
278	453		510	3239		4
292	109			781		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	109			781		
144	153	191	54	640	233	95
158	95	95	63	332	231	80
172	0	0	765	0	0	961
186	0	510	1530	0	761	1265
200	0	0	2486	0	0	1145
216	127	191	1530	616	355	680
228	1275	3060	574	6163	5689	395
242	1530	5355	765	8271	8301	151
256	573	1275	0	3383	1350	0
270	0	765	127	0	481	25
284	0	765	0	0	37	0
296	218			1563		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	2964	765	1224	10295	1854	1518
47	95	191	510	332	463	640
75	95	382	306	332	927	379
164	0	382	3289	0	927	4080
181	34	918	4284	130	1898	5313
185	0	306	7938	0	873	6438
192	131	420	6732	404	1273	6960
206	229	133	3873	797	381	3141
220	214	215	3132	896	460	2540
234	117	19127	2151	602	35120	390
248	286	7045	1606	1386	15883	78
262	229	11094	1989	1536	4385	97
276	625		956	4353		173
290	765			5460		
348	860	191	688	2989	463	853

Density listing for lake 223
Polyarthra vulgaris

1980

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
78	463			3307		
126	1721	1836	241	3206	3609	803
140	510	8624	0	721	34426	0
156	669	58626	39020	2324	142105	46475
168	5703	159437	44835	25715	411192	2959
182	10839	395944	135169	52386	840239	26716
189	9534	491409	84927	48808	967322	5543
203	5292	286629	125478	25577	646204	8190
217	2076		80664	11225		140978
231	1817		319338	10714		380348
245	1721	100803		10150	120062	
259	34429	75745	24483	230417	29942	1598
273	54705	448610		264399	1011387	
287	140898	125360		721282	252927	
301	177314	95529		958421	166957	
344	456006	156847	116018	1583563	380184	144821

1981

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	153022	64556	94720	531397	156478	117471
41	76224	56522	25631	264702	137005	31787
76	9181	8990	19969	31883	21791	24765
125	100420	133320	58674	348729	181378	136110
138	29074	127582	199147	121648	155793	348051
152	28978	198833	402687	100633	481953	505906
166	111567	214668	699273	503013	390055	578496
180	77754	82631	13899	375798	87874	17462
194	0	9714	41315	0	38792	18362
208	255	7842	860	1232	14580	396
222	255	10864	2805	1232	23055	554
236	6230	14728	3825	33675	22829	756
250	17462		12659	106715		13188
264	4718		15455	29845		12785
278	7311		24738	52236		217
292	4098			29318		

1982

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	67329	20275	50956	233814	49145	63195
41	193286	32960	93420	671221	225328	115858
67	216622	196633	194912	752259	476621	155100
130	79544			568973		
144	27161	135998	265110	113645	166070	463336
158	34334	184200	260265	119232	446485	326977
172	7957	238714	992348	33293	408799	1246713
186	174190	399642	1513389	841887	596460	1252000
200	96250	145830	452371	402722	365778	208353
216	4909	185156	207855	23728	344241	92380
228	4973	124215	26778	24036	602777	12117
242	7596	64651	34685	41060	100213	6855
256	9181	36470	3634	54138	38610	659
270	5270	15684	1785	33340	9875	352
284	33856	74215	32134	239960	3646	518
296	34539			247056		

1983

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
12	43037	16449	17138	149455	39873	21254
47	3538	2582	3124	12288	6259	3925
75	2104	956	229	7306	2318	284
164	7523	28117	27084	26127	68155	33590
181	15642	104273	45600	59884	215659	56553
185	22379	84621	81484	77716	241420	66095
192	12241	54781	55087	37775	165731	56946
206	6503	33664	58530	22584	96044	47477
220	7039	9946	28117	29451	21300	22807
234	3648	17342	15493	18679	31842	2812
248	1593	30859	26396	7703	69572	1297
262	7306	35960	11476	48899	14215	563
276	28900		30030	201009		545
290	58913			420453		
348	81293	28500	14613	282304	69082	18123

Density listing for lake 223
Polyarthra remata

1980

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
78	25160			179564		
126	61208	28615	4147	114023	56243	13789
140	2295	45002	382	3244	179630	668
156	5738	122322	9946	19927	296497	11846
168	2434	35754	17138	10975	92211	1131
182	2167	9640	4335	10477	20458	856
189	2707	13771	6120	13859	27109	399
203	828	29552	14537	4006	66625	948
217	983		19182	5317		33525
231	191		62404	1127		74326
245	1530	31178		9023	37134	
259	8779	15301	6120	58756	6048	399
273	37745	149834		182429	337800	
287	44494	50850		227773	102595	
301	65416	51152		353592	89399	
344	58530	40168	53279	203259	97364	66506

1981

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	2104	1243	1147	7306	3013	1423
41	191	573	306	664	1390	379
76	95	95	229	332	231	284
125	1052	1912	191	3653	2602	443
138	3672	6694	874	15366	8175	1528
152	2295	23455	2725	7970	56853	3424
166	3060	10930	15837	13798	19860	13102
180	24387	82631	7906	117870	87874	9932
194	510	30618	43611	1376	122270	19382
208	10520	103481	15206	50846	192390	7003
222	446	14690	4208	2157	31174	831
236	6120	2773	1530	33084	4299	302
250	9811		765	59958		797
264	2592		1453	16401		1202
278	8387		6630	59930		58
292	11749			84046		

1982

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
13	34047	18362	30145	118235	44509	37386
41	17788	12624	49426	61774	30600	61297
67	10615	13198	37681	36865	31991	29985
130	4481			32054		
144	14996	16449	1256	62745	20087	2196
158	10902	10711	1147	37862	25963	1441
172	306	59168	14282	1280	101326	17942
186	7396	30094	31522	35746	44915	26078
200	11782	11017	2869	49299	27634	1321
216	1020	1147	1275	4930	2133	566
228	1530	5312	1311	7395	11735	593
242	2404	5355	1657	12997	8301	327
256	23144	3825	1912	136474	4050	347
270	20998	24866	5865	132825	15656	1159
284	100564	366488	157612	712763	18008	2543
296	52136			372930		

1983

Day	Density (# per M3) Upper	Middle	Lower	Weighted Density (# per M2) Upper	Middle	Lower
12	95	95	459	332	231	569
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	16449	23527	8110	57125	57027	10058
181	1020	53557	9028	3905	110768	11196
185	15684	30145	17214	54468	86003	13963
192	43283	43305	11094	133564	131011	11468
206	10711	30604	15110	37197	87312	12257
220	9334	9659	7842	39055	20686	6361
234	1530	6630	4399	7833	12174	798
248	573	2167	1147	2773	4887	56
262	1530	2869	2295	10240	1134	112
276	5703		7459	39669		1354
290	10829			77286		
348	15302	5355	5202	53139	12981	6452

Density listing for Lake 223
Keratella cochlearis

1980

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
78	23902			170585		
126	211553	40397	9141	394092	79403	30389
140	18617	258885	2513	26318	1033359	4393
156	4495	657995	299732	15609	1594921	356996
168	7790	914248	396174	35123	2357869	26150
182	7141	1275631	568222	34513	2707032	112310
189	39314	1634798	409143	201260	3218041	26706
203	20402	1240914	626052	98610	2797631	40864
217	21313		852388	115205		1489725
231	8607		1223555	50754		1457319
245	43133	292272		254338	348111	
259	46652	65034	17788	312215	25708	1161
273	13644	40168		65945	90559	
287	13183	18362		67488	37048	
301	4057	2950		21933	5157	
344	8990	4208	3060	31219	10200	3820

1981

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	1530	669	306	5313	1622	379
41	3060	1530	459	10627	3709	569
76	2677	4973	2524	9299	12054	3131
125	47819	50114	2869	166061	68179	6655
138	11170	118209	22516	46738	144348	39351
152	7746	18075	276444	26901	43813	347303
166	13771	93999	1134812	62092	170798	938810
180	114192	315034	155062	551910	335020	194808
194	5738	43406	799923	15487	173339	355521
208	2040	35768	31560	9861	66501	14536
222	255	28309	29584	1232	60075	5847
236	383	10807	3060	5317	16751	604
250	495		904	3025		942
264	42		153	268		126
278	56		0	404		0
292	874			6254		

1982

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	3251	478	153	11292	1159	189
41	860	573	76	2989	1390	94
67	95	95	765	332	231	608
130	27			195		
144	1071	1530	163	4481	1868	286
158	8129	860	318	28230	2086	400
172	1071	510	510	4481	873	640
186	15939	3570	612	77039	5328	506
200	4131	1683	573	17286	4221	264
216	956	573	0	4622	1066	0
228	191	0	0	924	0	0
242	273	0	0	1476	0	0
256	286	255	191	1691	270	34
270	255	1147	382	1613	722	75
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
12	0	95	0	0	231	0
47	191	191	127	664	463	160
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	2720	218	306	10414	452	379
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	5591			39903		
348	3825	1147	153	13284	2781	189

Density listing for Lake 223
Keratella taurocephala

1980

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
78	794			5670		
126	956	612	241	1781	1203	803
140	13771	973	0	19468	3886	0
156	38159	2390	3442	132517	5795	4100
168	44167	3707	7039	199135	9562	464
182	39275	9296	5610	189825	19727	1108
189	24365	6885	2295	124733	13554	149
203	17023	3442	1530	82278	7762	99
217	32462		14755	175466		25788
231	103098		118783	607930		141477
245	6216	2869		36656	3417	
259	4303	3825	573	28802	1512	37
273	2040	765		9861	1724	
287	2354	3766		12051	7599	
301	4549	2076		24591	3629	
344	22570	14345	7094	78381	34772	8855

1981

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	16736	8224	3519	58121	19936	4364
41	22283	19701	3749	77384	47754	4649
76	39785	47532	23794	138163	115214	29510
125	138963	145179	8990	482575	197512	20854
138	122723	204093	9399	513486	249222	16428
152	42081	30986	3873	146134	75109	4866
166	94039	13990	6885	423986	25421	5696
180	82345	86074	2167	397986	91535	2723
194	398112	74393	32134	1074480	297082	14282
208	249681	78232	23814	1206746	145448	10968
222	157485	54475	29201	761150	115603	5771
236	106131	32230	10966	573664	49958	2167
250	140600		12950	859224		12970
264	90623		81713	573248		67600
278	36441		71920	260372		632
292	15848			113364		

1982

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	10998	2773	2295	38194	6722	2846
41	9755	2295	918	33876	9563	1138
67	5929	4016	1721	20591	9736	1369
130	1639			11727		
144	10022	4781	327	41936	5839	573
158	179322	11189	1211	622731	27122	1521
172	237566	122672	4718	994000	210077	5927
186	171384	58148	7957	828328	86785	6582
200	137260	57077	74407	574311	143164	34270
216	80591	23527	9181	389511	43741	4080
228	46161	14537	6120	223106	27027	2769
242	31806	21231	5228	171922	32910	1033
256	23527	4335	2486	138730	4590	451
270	8161	10711	2040	51624	6744	403
284	21375	68094	27543	151500	3346	444
296	12405			88737		

1983

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
12	137146	52888	10941	476264	128196	13569
47	38255	14250	14728	132849	34541	18503
75	10998	7077	3213	38194	17154	3985
164	344682	101664	19357	1196972	246424	24006
181	221032	113236	7345	846195	234196	9109
185	243114	50038	5929	844257	142756	4809
192	329872	74215	5738	1017922	224525	5931
206	257077	84315	23909	892747	240547	19394
220	135577	79667	7364	567268	170611	5973
234	54793	16152	4399	280498	29657	798
248	47819	27607	30221	231118	62241	1485
262	21117	21040	6503	141322	8317	319
276	7824		5738	54424		1041
290	9769			69725		
348	13485	9085	8569	46829	22022	10627

Density Listing for Lake 223
Keratella hiemalis

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	132			945		
126	0	0	161	0	0	535
140	0	69	327	0	277	573
156	0	0	2869	0	0	3417
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0		
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	95	95	76	332	231	94
41	382	191	918	1328	463	1138
76	860	1147	1836	2989	2781	2277
125	1338	8033	12241	4649	10929	28398
138	76	0	18144	320	0	31710
152	3347	215	55703	11624	521	82545
166	0	0	117406	0	0	97128
180	0	15493	5610	0	16476	7049
194	0	0	6885	0	0	3060
208	0	0	95	0	0	44
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	109			781		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	20371	8320	23565	70742	20168	29225
41	32230	20084	21805	111925	48682	27043
67	31369	36247	62930	108936	87859	50076
130	26888			192328		
144	459	16067	43174	1920	19620	75455
158	95	286	1849	332	695	2322
172	0	0	1657	0	0	2082
186	127	0	612	616	0	506
200	0	153	191	0	383	88
216	0	0	255	0	0	113
228	127	0	0	616	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	286	0	459	996	0	569
47	382	286	573	1328	695	720
75	95	0	0	332	0	0
164	0	0	3060	0	0	3795
181	0	0	459	0	0	569
185	191	0	4016	664	0	3258
192	218	0	5355	674	0	5536
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	34		0	241		0
290	58			420		
348	191	382	3749	664	927	4649

Density Listing for Lake 223
Trichocera sp.

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	6488			46308		
126	8033	3978	483	14965	7820	1606
140	255	139	0	360	555	0
156	0	669	573	0	1622	683
168	0	0	1989	0	0	13
182	127	2410	4335	616	5114	856
189	941	8086	9563	4820	15918	624
203	255	11763	8607	1232	26520	561
217	874		3442	4726		6017
231	382		8177	2255		9739
245	478	1530		2819	1822	
259	172	4973	1912	1152	1965	124
273	16449	43228		79504	97458	
87	37784	87928		193426	177405	
301	87919	113017		475222	197521	
344	68859	80719	114905	239128	195656	143432

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	3347	5068	2065	11624	12286	2561
41	669	1530	1300	2324	3709	1613
76	0	0	76	0	0	94
125	95	382	95	332	520	221
138	229	382	54	960	467	95
152	573	430	183	1992	1043	180
166	0	437	344	0	794	284
180	0	2582	510	0	2746	640
194	0	0	1147	0	0	510
208	63	956	1530	308	1778	704
222	0	306	892	0	549	176
236	109	382	510	590	592	100
250	45		69	275		72
264	0		153	0		126
278	170		510	1214		4
292	327			2345		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	2773	4208	5656	9631	10200	8255
41	6120	5642	2754	21255	13677	3415
67	573	1530	4016	1992	3709	3196
130	409			2931		
144	382	1338	491	1600	1635	859
158	0	956	191	0	2318	240
172	0	1275	3060	0	2183	3844
186	0	2040	14384	0	3045	11899
200	0	2142	10711	0	5373	4933
216	0	191	0	0	355	0
228	0	191	218	0	355	98
242	0	0	255	0	0	50
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	573	765	153	1992	1854	189
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	191	0	191	664	0	155
192	437	153	0	1349	462	0
206	0	0	0	0	0	0
220	0	0	382	0	0	310
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	34		191	241		34
290	58			420		
348	669	765	459	2324	1854	569

Density listing for Lake 223
Kellicottia bostoniensis

1980

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
78	3111			22209		
126	0	765	442	0	1503	1472
140	0	765	218	0	3053	38
156	0	860	6981	0	2086	8315
168	59	18539	5661	313	47813	373
182	127	81254	27543	616	172431	5444
189	353	152117	27543	1807	299438	1797
203	0	234984	184605	0	529771	9438
217	327		468739	1772		819220
231	478		2851664	2819		3396481
245	2199	969586		12970	1154828	
259	93649	823641	105775	626734	325590	6904
273	60188	511859		290901	1153982	
287	68506	110999		350698	223953	
301	63326	75089		342293	131234	
344	51836	42463	105585	180010	102928	131797

1981

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	4590	7268	20887	15941	17618	25904
41	2869	2869	21117	9963	6954	26189
76	3347	44995	12394	11624	10895	15371
125	25248	34812	7029	87680	47361	16306
138	2830	102333	19564	11844	124961	24193
152	4877	1506	217052	16938	3651	272688
166	139	1530	1014651	627	2780	839403
180	16928	476855	199311	81815	507106	250400
194	0	2705	1239479	0	10802	550879
208	0	765	5833	0	1422	2687
222	0	153	9691	0	324	1915
236	0	2582	127	0	4002	25
250	0		486	0		507
264	42		382	268		316
278	453		4080	3239		35
292	546			3909		

1982

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	1434	1625	5508	4981	3940	6831
41	573	765	5049	1992	1854	6262
67	573	1434	13198	1992	3477	10502
130	1256			8990		
144	841	5929	1967	3521	7240	3438
158	0	3538	2422	0	8577	3043
172	0	510	13516	0	873	16981
186	127	510	108645	616	761	89880
200	1377	18515	92387	5762	46441	42551
216	446	5929	47946	2157	11024	21309
228	255	113427	25576	1232	210883	11573
242	491	162012	131726	2658	251127	26036
256	1243	155062	23527	7331	164160	4270
270	5971	181522	22443	44096	114291	4435
284	42033	400918	169089	297916	19700	2728
296	9399			67236		

1983

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
12	95	478	1300	332	1159	1613
47	191	191	382	664	463	480
75	0	191	306	0	463	379
164	127	191	4437	442	463	5503
181	0	437	65799	0	904	8160
185	13580	153	218439	47161	436	177186
192	2623	459	540933	8094	1388	559182
206	5547	5049	190703	19263	14406	154689
220	918	669	76319	3841	1433	61906
234	1118	57978	31752	5724	108453	5763
248	446	21295	11476	2157	48010	563
262	191	16449	6885	1280	6502	338
276	1217		30221	8466		5485
290	3590			25622		
348	1817	1147	31522	6310	2781	39093

Density listing for Lake 223
Kellicottia longispina

1980

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
78	2184			15593		
126	15493	7192	1208	28862	14136	4016
140	1275	13911	273	1802	55527	477
156	13198	30221	8224	45833	73255	9796
168	10294	42640	16067	46412	109970	1060
182	8543	49923	21423	41293	105943	4234
189	5414	107358	27543	27718	211332	1797
203	2295	90378	25057	11093	203758	1635
217	6885		108208	37220		189116
231	2773		317186	16354		377785
245	2486	38829		14662	46247	
259	4475	6120	382	29954	2419	24
273	637	1402		3081	3162	
287	1059	941		5423	1899	
301	491	1202		2658	2101	
344	4399	2869	956	15277	6954	694

1981

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	1625	956	841	5646	2318	1043
41	4686	5355	2448	16274	12981	3036
76	6503	7364	7651	22584	17850	9488
125	65130	118592	35003	226175	161341	81200
138	30068	135042	189911	125810	164902	331909
152	21327	49062	1361419	74063	118923	1710385
166	60791	142747	4890780	274085	259374	4046058
180	236132	735080	459321	1141263	781713	577057
194	3187	67384	2536342	8604	269092	1127263
208	2295	61973	158282	11093	115221	72901
222	191	88752	244963	924	188343	48417
236	2349	119166	31369	12702	184713	6200
250	4995		18779	30529		19565
264	1020		3978	6453		3291
278	736		1020	5264		8
292	163			1172		

1982

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
13	1912	478	153	6642	1159	189
41	1052	765	382	3653	1854	474
67	669	382	1912	2324	927	1522
130	1065			7622		
144	2142	2104	382	8963	2569	668
158	1243	286	63	4317	595	80
172	382	765	255	1600	1310	320
186	6758	2550	306	32664	3806	253
200	1836	1683	382	7683	4221	176
216	63	382	255	308	711	113
228	765	1338	327	3697	2489	148
242	218	1721	127	1181	2668	25
256	191	0	191	1127	0	34
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M) 3 Upper	Middle	Lower	Weighted Density (# per M) 2 Upper	Middle	Lower
12	0	191	153	0	463	189
47	95	573	127	332	1390	160
75	95	0	76	332	0	94
164	382	191	76	1328	463	94
181	680	655	306	2603	1356	379
185	0	459	0	0	1309	0
192	0	0	0	0	0	0
206	0	0	573	0	0	465
220	1836	573	573	7683	1228	465
234	58	510	956	301	936	173
248	63	1147	1147	308	2587	56
262	267	1530	382	1792	604	18
276	1043		1530	7256		277
290	1589			11340		
348	3156	3156	1836	10960	7650	2277

Density Listing for Lake 223
Gastropus stylifer

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	18765			105375		
126	171958	39326	8094	320333	77297	26908
140	113746	9529	54	160796	38036	95
156	10042	45524	6025	34872	110346	7176
168	4799	20657	13312	21638	53277	878
182	24483	17214	6120	118332	36532	1209
189	28485	16588	7842	145823	32654	511
203	25376	27830	6120	122646	62744	399
217	37271		130833	201461		228659
231	19797		194529	116736		231694
245	40455	28500		238547	33945	
259	48890	57382	17023	327192	22683	1111
273	35450	19765		171335	44560	
287	23659	36372		121117	73384	
301	29265	20111		158186	35148	
344	74789	45141	20588	259720	109419	25699

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	69912	21040	8722	282782	51000	10817
41	82249	39307	11476	285625	95277	14233
76	67425	79571	37413	234186	192874	46400
125	32517	44185	4495	112921	60112	10427
138	20887	54131	1967	87395	66101	3438
152	3347	17645	2151	11624	42770	2703
166	5703	4153	2065	25715	7546	1709
180	36151	72302	5355	174725	76889	6728
194	1275	16723	64269	3441	66782	28564
208	9372	49158	5355	45299	91394	2466
222	573	0	0	2773	0	0
236	4098	2486	765	22154	3854	151
250	4185		625	25578		652
264	7906		6656	50011		5506
278	6177		15812	44137		139
292	6776			48473		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	20944	3825	4896	72734	9272	6072
41	21710	4877	2907	75391	11822	3605
67	12146	3347	1338	42179	8113	1065
130	628			4895		
144	382	382	54	1600	467	95
158	1817	95	0	6310	231	0
172	3487	20147	765	39695	34503	961
186	24611	160673	9569	118948	239802	7089
200	44682	255853	95638	186955	641743	48049
216	24611	742922	183626	118948	1381231	81611
228	22188	877199	240354	107238	1630877	108763
242	39403	102716	43611	212982	159215	8619
256	10233	2550	765	60341	2700	138
270	170	573	0	1075	361	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	95	95	0	332	231	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	892	286	0	3099	695	0
181	11221	54650	5202	42960	113029	6452
185	52810	99005	15302	182003	282457	12412
192	42409	69166	79954	130866	209248	82651
206	53366	44529	144032	185324	127040	116831
220	30604	32039	71346	128051	68613	57872
234	14419	207940	125669	73815	381795	22811
248	9795	15939	16067	47148	35936	789
262	3557	4016	2295	23809	1587	112
276	2747		1530	19109		277
290	4237			30242		
348	8990	6885	841	31219	16691	1043

Density Listing for Lake 223
Synchaeta sp.

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	382	612	40	712	1203	133
140	0	69	54	0	277	95
156	0	0	95	0	0	113
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	1936	0	0	765	0
273	0	0		0	0	
287	0	0		0	0	
301	122	553		664	967	
344	.91	0	0	664	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	478	0	95	1660	0	221
138	76	0	54	320	0	95
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0		0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1530	191	306	5313	463	379
41	5929	1625	1530	20591	3940	1897
67	40646	22283	7842	141152	54014	6240
130	3033			21695		
144	841	382	163	3521	467	286
158	0	0	0	0	0	0
172	0	0	255	0	0	320
186	0	0	0	0	0	0
200	0	153	0	0	383	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	218			1563		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	95	95	0	332	231	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	117			840		
348	2582	382	229	8567	927	284

Appendix 3

Abundance of eggs and females of major zooplankton species, expressed as numbers per cubic metre and numbers per square metre at the routine sampling station for the years 1974, 1977-1983. In most cases, abundance is show for each sampling layer during periods of thermal stratification or for the entire water column during non-stratification. The results of sampling the entire water column are shown in the "upper" column of the table. Zeros indicate no animals were found in the subsamples. The corresponding dates and depth limits of each sampling layer are given in Table 3.

Density Listing for Lake 223
Daphnia galeata mendotae eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	313		536	1312		1593
198	0		482	0		1432
226	0		125	0		288
254	0		0	0		0
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	5658	0	0	6743	0
150	0	0	0	0	0	0
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
262	0	0	0	0	0	0
283	161		0	1103		0
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	0	0	0	0	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	0	0	0	0	0	0
250	0	0	0	0	0	0
268	120	0	0	733	0	0
296	39			287		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	0	0	0	0	0	0
183	0	0	0	0	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	0	0	0	0	0	0
295	0			0		

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
125	0	0	0	0	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	382	0	0	1848	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	235	0		1205	0	
301	0	0		0	0	
344	0	0	0	0	0	0

Density Listing for Lake 223
Daphnia catawba eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		983	0		1719
231	0		0	0		0
245	0	573		0	683	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0			0		
301	491	0		2658	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	765	0	0	934	0
152	0	0	1147	0	0	1441
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	245	0	0	982	0
208	0	191	0	0	355	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	297		229	1882		189
278	0		0	0		0
292	54			390		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	459	191	0	1151	88
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	191	0	0	155
192	0	0	0	0	0	0
206	0	0	286	0	0	232
220	0	358	0	0	768	0
234	177	85	0	602	156	0
248	286	573	229	1386	1293	11
262	267	956	153	1792	378	7
276	0		0	0		0
290	411			2940		
348	0	0	0	0	0	0

Density listing for Lake 223
Holopedium gibberum eggs

1976

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	0		0	0		0
198	0		0	0		0
226	0		0	0		0
254	0		0	0		0
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	0	0	0	0
150	0	0	0	0	0	0
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
262	0	0	0	0	0	0
283	0		0	0		0
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	382	0	0	1032	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
225	0	0	0	0	0	0
250	0	0	0	0	0	0
268	0	0	0	0	0	0
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	655	0	0	1587	0
169	0	2869	0	0	7764	0
183	765	0	0	3201	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	0	0	0	0	0	0
295	0			0		

Density listing for Lake 223
Holopedium gibberum eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	535	1912	0	2240	2335	
152	0	215	0	0	521	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	109	0	0	590	0	0
250	90		0	550		0
264	297		0	1882		0
278	226		0	1619		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	765	0	0	3201	0	0
158	573	0	0	1992	0	0
172	0	0	0	0	0	0
186	0	1275	0	0	1903	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	765	0	0	151
284	430	0	1530	3050	0	24
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	1377	1606	0	4782	3894	0
181	34	179	535	130	361	664
185	0	76	1243	0	218	1008
192	0	191	0	0	578	0
206	38	19	0	132	54	0
220	0	0	0	0	0	0
234	0	425	95	0	780	17
248	0	31	0	0	71	0
262	57	0	0	384	0	0
276	104		183	725		26
290	58			420		
348	0	382	0	0	927	0

Density Listing for Lake 223
Bosmina longirostris eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	313		1024	1312		3041
198	250		47	1049		141
226	696		0	3368		0
254	0		89	0		111
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	0	0	0	0
150	0	565	188	0	1207	437
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	485	0	0	1003	0
220	0	0	0	0	0	0
234	452	0	0	2558	0	0
262	565	0	1131	3579	0	223
283	323		0	2206		0
290	1091			7806		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	196			1400		
156	0	0	0	0	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	165	0	0	691	0	0
250	0	0	0	0	0	0
268	60	0	0	366	0	0
296	510			3640		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	127	0	0	344	0	0
183	229	0	0	960	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	71	0	0	508	0	0
295	191			1361		

Density Listing for Lake 223
Bosmina longirostris eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	0	95	0	0	231	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	63	0	0	308	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	344	0	0	2304	0	0
273	0	0		0	0	
287	235	117		1205	238	
301	614	218		3323	382	
344	191	0	0	664	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	76	0	0	94
76	0	0	0	0	0	0
125	0	573	0	0	780	0
138	382	1912	218	1600	2335	382
152	0	0	0	0	0	0
166	139	0	0	627	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	63	191	0	308	355	0
222	0	0	0	0	0	0
236	163	0	0	886	0	0
250	0		0	0		0
264	0		76	0		63
278	283		0	2024		0
292	874			6254		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	95	0	153	332	0	189
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	191	0	0	924	0	0
228	0	0	0	0	0	0
242	655	191	382	3544	296	75
256	478	510	0	2819	540	0
270	255	2869	765	1613	1806	151
284	573	2295	765	4067	112	12
296	491			3518		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	71	286	1377	249	695	1707
47	0	0	12	0	0	16
75	0	0	0	0	0	0
164	38	38	0	132	92	0
181	0	0	0	0	0	0
185	0	38	0	0	109	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	31	95	38	154	215	1
262	210	191	38	1408	75	1
276	69		0	483		0
290	117			840		
348	0	382	1147	0	927	1423

ensity Listing for Lake 223
Diaptomus sinutus (f)

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	618			4384		
170	313		596	1312		1770
198	250		52	1049		157
226	3		0	14		0
254	58		199	342		247
282	1997			14256		
310	3849			27534		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	4753	0	0	10841	0	0
150	2263	3961	0	6108	8453	0
164	754	3395	0	2888	3411	0
178	0	0	0	0	0	0
206	1131	485	0	4332	1003	0
220	848	0	0	4102	0	0
234	452	679	970	2558	707	438
262	0	3395	0	0	2137	0
283	1616		3395	11032		1117
290	4365			31224		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	902			6440		
156	1147	2295	0	3097	7339	0
184	0	459	0	0	1467	0
205	229	229	0	960	575	0
226	498	510	0	2084	1185	0
250	688	0	0	2881	0	0
268	960	612	0	5867	516	0
296	1647			11760		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	430			3078		
155	510	109	0	1376	264	0
169	2295	669	0	6194	1811	0
183	1989	2104	491	8323	2569	859
197	382	1275	143	1600	2183	180
211	956	0	0	4622	0	0
225	1191	0	95	6101	0	44
239	859	0	0	2594	0	0
253	107	430	191	634	512	12
267	516		0	3456		0
281	2725	0	765	19318	0	12
295	2677			19133		

Density Listing for Lake 223
Diaptomus sinutus (f)

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	2913			20791		
126	8798	918	362	16390	1804	1204
140	5100	2921	0	7210	11660	0
156	2486	1243	191	8635	3013	227
168	1460	0	306	6585	0	20
182	765	344	0	3697	730	0
189	117	0	0	602	0	0
203	0	0	0	0	0	0
217	218		0	1181		0
231	95		0	563		0
245	191	0		1127	0	
259	688	765	0	4608	302	0
273	860	382		12942	360	
287	3648			18679		
301	2090	983		11299	1719	
344	4208	1338	695	14613	3245	868

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	5929	2486	1759	20591	6027	2182
41	4399	2582	1683	15277	6259	2087
76	2677	3156	1683	9299	7650	2087
125	2582	2869	0	8967	3903	0
138	0	0	0	0	0	0
152	286	0	0	996	0	0
166	2921	695	0	13171	1191	0
180	573	0	127	2773	0	160
194	4845	983	573	13078	3928	255
208	1466	0	95	7087	0	44
222	318	0	0	1540	0	0
236	1420	191	127	7680	296	25
250	360		0	2200		0
264	1190		0	7528		0
278	1530		0	10933		0
292	163			1172		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	860	0	229	2989	0	284
41	286	191	0	996	463	0
67	573	573	0	1992	1390	0
130	136			977		
144	229	0	0	960	0	0
158	4016	0	0	13949	0	0
172	1300	1275	0	5442	2183	0
186	2932	255	0	14175	380	0
200	612	0	0	2561	0	0
216	0	0	0	0	0	0
228	255	0	0	1232	0	0
242	218	191	0	1181	296	0
256	95	0	0	563	0	0
270	255	191	0	1613	120	0
284	143	0	1147	1016	0	18
296	218			1563		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	2271	1482	275	7887	3593	341
47	172	181	102	597	440	128
75	396	143	15	1378	347	18
164	2104	535	191	7306	1298	237
181	2210	87	0	8461	180	0
185	1338	153	0	4649	436	0
192	1311	191	0	4047	578	0
206	2218	57	47	7705	163	38
220	1162	334	0	4865	716	0
234	282	0	47	1446	0	8
248	382	382	114	1848	862	5
262	248	191	38	1664	75	1
276	434		239	3023		43
290	765			5460		
348	860	191	0	2989	463	0

Density Listing for Lake 223
Diaptomus sinutus eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	1053			7463		
170	209		0	874		0
198	0		0	0		0
226	309		0	1496		0
254	0		0	0		0
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	33272	0	0	75892	0	0
150	5658	5092	0	15272	10869	0
164	754	1131	0	2888	1137	0
178	0	0	0	0	0	0
206	0	970	0	0	2006	0
220	1131	0	0	5469	0	0
234	0	679	4850	0	707	2194
262	0	0	0	0	0	0
283	0		0	0		0
290	848			6071		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	3962			28282		
156	1912	1377	0	5162	4403	0
184	0	588	0	0	2201	0
205	918	918	0	3841	2302	0
226	0	0	0	0	0	0
250	2065	0	0	8643	0	0
268	480	0	0	2933	0	0
296	39			280		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	2643			18910		
155	1530	0	0	4129	0	0
169	8671	478	0	23403	1294	0
183	2754	3060	0	11524	3737	0
197	0	1020	286	0	1747	360
211	1912	0	0	9244	0	0
225	662	0	0	3389	0	0
239	612	0	0	3458	0	0
253	0	860	0	0	1025	0
267	516		0	3456		0
281	286	0	0	2033	0	0
295	63			0		

Density Listing for Lake 223
Diaptomus sinutus eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	11873			84741		
126	30030	1989	684	55942	3910	2275
140	19382	11267	0	27400	44976	0
156	5068	2773	382	17602	6722	455
168	1251	0	612	5648	0	40
182	255	688	0	1232	1461	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	218		0	1181		0
231	191		0	1127		0
245	478	0		2819	0	
259	344	0	0	2304	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	669	2582	0	2324	6259	0
76	3825	4686	1071	13284	11359	1328
125	9468	3825	0	32880	5204	0
138	0	0	0	0	0	0
152	0	0	0	0	0	0
166	5147	1311	0	23206	2383	0
180	573	0	0	2773	0	0
194	3825	122	0	10324	491	0
208	1083	0	191	5238	0	88
222	573	0	0	2773	0	0
236	4754	382	0	25699	592	0
250	450		0	2750		0
264	1445		0	9141		0
278	1190		0	8503		0
292	218			1563		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1243	0	0	4317	0	0
41	956	0	0	3321	0	0
67	0	478	0	0	1159	0
130	573			4104		
144	1300	0	0	5442	0	0
158	19127	0	0	66424	0	0
172	5814	3825	0	24329	6551	0
186	3442	0	0	16640	0	0
200	459	0	0	1920	0	0
216	0	0	0	0	0	0
228	446	0	0	2157	0	0
242	327	0	0	1772	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	167	0	0	581	0	0
47	449	1042	688	1560	2526	865
75	2080	635	367	7223	1541	455
164	13236	4858	803	45965	11776	996
181	4012	262	0	15361	542	0
185	573	0	0	1992	0	0
192	612	0	0	1888	0	0
206	9372	994	0	32548	2837	0
220	3672	1028	0	15366	2201	0
234	1177	0	0	6025	0	0
248	1466	1083	535	7087	2443	26
262	133	0	0	898	0	0
276	678		0	4716		0
290	529			3780		
348	1338	669	0	4649	1622	0

Density Listing for Lake 223
Tropocyclops prasinus mexicanus eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	0		0	0		0
198	0		0	0		0
226	0		0	0		0
254	0		0	0		0
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	2716	0	0	6195	0	0
150	0	0	0	0	0	0
164	0	0	398	0	0	923
178	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	679	0	3880	3837	0	1755
262	0	0	0	0	0	0
283	0		0	0		0
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	382	688	0	1032	2201	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	495	765	0	2074	1778	0
250	0	0	0	0	0	0
268	0	0	0	0	0	0
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	1785	109	0	4818	264	0
169	1785	191	0	4818	517	0
183	0	0	0	0	0	0
197	688	0	0	2881	0	0
211	255	0	0	1232	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	0	0	0	0	0	0
295	0			0		

Density Listing for Lake 223
Tropocyclops prasinus mexicanus eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	0	0	0	0	0
156	573	0	0	1992	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	-	-	-	-	-	-
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

Density Listing for Lake 223
Tropocyclops prasinus mexicanus (f)

1976

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	98			699		
170	0		0	0		0
198	0		0	0		0
226	3		69	18		160
254	58		0	342		0
282	153			1096		
310	99			712		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	679	0	0	1548	0	0
150	0	0	0	0	0	0
164	377	0	132	1444	0	308
178	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	452	0	485	2558	0	219
262	565	8488	0	3579	5344	0
283	2425		9215	16548		3032
290	848			6071		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	510			3640		
156	3060	688	0	8259	2201	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	330	255	0	1382	592	0
250	229	229	0	960	575	0
268	2040	2652	510	12468	2239	92
296	1020			7280		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	61			439		
155	1402	218	0	3785	529	0
169	382	191	0	1032	517	0
183	76	191	0	320	233	0
197	76	0	0	320	0	0
211	63	0	0	308	0	0
225	264	0	95	1355	0	44
239	102	0	0	576	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	502	0	765	3558	0	12
295	0			0		

Density Listing for Lake 223
Tropocyclops prasinus mexicanus (f)

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	88			315		
126	191	0	0	356	0	0
140	0	0	0	0	0	0
156	95	0	0	332	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	95	76	0	231	94
41	0	95	76	0	231	94
76	0	95	153	0	231	189
125	95	0	0	332	0	0
138	0	191	0	0	233	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	0	0	0	0	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	191	0	0	664	0	0

Density Listing for Lake 223
Mesocyclops edax eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	2926		1300	12246		3861
198	0		0	0		0
226	0		0	0		0
254	0		0	0		0
282	0			0		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	0	0	0	0
150	0	32254	0	0	68837	0
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	0	8827	0	0	10947
220	0	0	0	0	0	0
234	0	0	0	0	0	0
262	0	0	0	0	0	0
283	0		0	0		0
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	0	0	0	0	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	0	0	0	0	0	0
250	0	0	0	0	0	0
268	0	0	0	0	0	0
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	1275	669	0	3441	1811	0
183	153	0	0	640	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0	0	0	0	0	0
267	0		0	0		0
281	0	0	0	0	0	0
295	0			0		

Density Listing for Lake 223
Mesocyclops edax eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	0	0	0	0	0
140	0	973	0	5047	3886	0
156	1434	0	0	4981	0	0
168	556	0	0	2508	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0	0	0
217	0		0	0		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	0	0	0	0	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	0	0
222	0	0	0	0	0	0
236	874	0	0	4726	0	0
250	0		0	0		0
264	0		0	0		0
278	0		0	0		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	1147	0	0	5546	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983 *

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	306	0	0	1062	0	0
192	3366	0	0	10388	0	0
206	420	248	0	1461	709	0
220	2662	1219	0	11140	2611	0
234	235	850	0	1205	1560	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	0			0		
348	0	0	0	0	0	0

* Loose eggs were identified and combined with eggs attached to ovid females.

Density Listing for Lake 223
Mesocyclops edax (f)

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	52			373		
170	209		271	874		804
198	0		52	0		157
226	0		69	0		160
254	0		199	0		247
282	38			274		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	2037	0	377	4646	0	1382
150	1697	565	0	4581	1207	0
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	0	339	0	0	421
220	0	0	0	0	0	0
234	0	2716	1455	0	2828	658
262	0	6790	0	0	4275	0
283	161		3880	1103		1277
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	382	0	0	1032	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	165	0	0	691	0	0
250	229	688	0	960	1727	0
268	0	2244	1275	0	1894	231
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	184			1319		
155	382	109	0	1032	264	0
169	127	191	0	344	517	0
183	382	0	0	1600	0	0
197	76	127	0	320	218	0
211	127	0	0	616	0	0
225	0	109	0	0	171	0
239	102	0	0	576	0	0
253	0	0	191	0	0	12
267	0		255	0		113
281	0	1721	0	0	84	0
295	0			0		

Density Listing for Lake 223
Mesocyclops edax (f)

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	191	0	0	356	0	0
140	255	59	0	360	277	0
156	478	0	0	1660	0	0
168	625	0	0	2822	0	0
182	127	0	0	616	0	0
189	117	0	0	602	0	0
203	0	0	0	0	0	0
217	109		0	590		0
231	0		0	0		0
245	0	0		0	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	0	0		0	0	
344	191	0	0	664	0	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	127	191	0	616	355	0
222	0	153	0	0	324	0
236	153	478	0	886	741	0
250	135		208	825		217
264	212		76	1344		63
278	283		255	2024		2
292	153			1172		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0	0	
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	153	0	0	640	0	0
216	0	0	0	0	0	0
228	63	191	0	308	355	0
242	163	573	127	886	889	26
256	382	255	0	2255	270	0
270	255	191	0	1613	120	0
284	143	3060	1147	1016	150	18
298	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	38	38	0	132	109	0
192	43	0	0	134	0	0
206	191	57	47	664	163	38
220	122	143	23	512	307	19
234	117	595	239	602	1092	43
248	0	255	38	0	574	1
262	76	573	114	512	226	5
276	695		1195	4837		217
290	353			2520		
348	0	0	0	0	0	0

Density Listing for Lake 223
Cyclops bicuspidatus thomasi (f)

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	394			2798		
170	0		0	0		0
198	83		52	349		157
226	0		766	0		1765
254	0		299	0		371
282	3495			24949		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	188	0	0	691
150	0	0	188	0	0	437
164	0	0	1061	0	0	2464
178	0	377	0	0	1113	0
206	0	485	10864	0	1003	13474
220	0	0	10185	0	0	8262
234	0	679	18431	0	707	8340
262	1131	5092	0	7158	3206	0
283	161		3395	1103		1117
290	121			867		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	470			3360		
156	0	459	459	0	1467	569
184	0	0	459	0	0	569
205	0	688	1912	0	1727	850
226	0	1785	2295	0	4150	1481
250	0	1606	170	0	4030	75
268	60	4692	2805	366	3961	509
296	156			1120		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	1418			10114		
155	255	437	688	688	1058	1400
169	0	0	437	0	0	764
183	0	0	122	0	0	214
197	0	127	143	0	218	180
211	0	327	1338	0	549	862
225	0	218	2869	0	343	1321
239	102	2705	9372	576	3528	1701
253	0	5810	4399	0	6920	287
267	86		4335	576		1926
281	2080	4303	3060	14743	211	49
295	573			4099		

Density Listing for Lake 223
Cyclops bicuspidatus thomasi (f)

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	1633			11655		
126	956	459	241	1781	902	803
140	0	695	109	0	2776	191
156	0	286	95	0	695	113
168	0	1324	306	0	3415	20
182	0	1377	510	0	2922	100
189	0	1564	191	0	3080	12
203	127	1721	2104	616	3881	137
217	109		7131	590		12464
231	95		8177	563		9739
245	382	1721		2255	2050	
259	0	1147	191	0	453	12
273	0	0		0	0	
287	117	563		602	1134	
301	491	109		2658	191	
344	382	956	2364	1328	2318	2951

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1243	669	1147	4317	1622	1423
41	1434	2008	1989	4981	4868	2467
76	191	478	841	664	1159	1043
125	95	191	239	332	260	554
138	0	0	546	0	0	955
152	0	215	0	0	521	0
166	0	437	1721	0	794	1424
180	860	860	1275	4160	915	1602
194	0	245	4590	0	982	2040
208	0	573	956	0	1066	440
222	0	1224	1530	0	2597	302
236	0	2773	127	0	4299	25
250	0		1043	0		1086
264	0		688	0		569
278	113		0	809		0
292	0			0		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	191	191	0	664	463	0
41	191	0	153	664	0	189
67	0	0	0	0	0	0
130	109			781		
144	76	0	0	320	0	0
158	0	382	0	0	927	0
172	0	0	255	0	0	320
186	127	0	459	616	0	379
200	0	153	573	0	383	264
16	0	0	0	0	0	0
228	0	2104	0	0	3911	0
42	0	3442	1020	0	5336	201
256	191	1785	191	1127	1890	34
270	0	1912	382	0	1204	75
284	286	1530	382	2033	75	6
296	54			390		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	2916	3036	1820	10129	7360	2258
47	851	1157	1319	2955	2805	1658
75	631	1061	1423	2192	2573	1764
164	0	612	612	0	1483	759
181	0	306	1453	0	632	1802
185	0	229	5068	0	654	4111
192	0	191	4208	0	578	4350
206	0	19	1578	0	54	1280
220	61	143	597	256	307	488
234	0	3995	621	0	7336	112
248	31	2677	918	154	6037	45
262	0	32899	6656	0	13005	327
276	678		2151	4716		390
290	647			4620		
348	478	382	1453	1660	927	1802

Density Listing for Lake 223
Cyclops bicuspidatus thomasi eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	263			1865		
170	0		0	0		0
198	0		0	0		0
226	0		0	0		0
254	0		0	0		
282	3534			25223		
310	0			0		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	0	0	0	0
150	0	0	0	0	0	0
164	0	0	0	0	0	0
178	0	0	0	0	0	0
206	0	0	0	0	0	15147
220	0	0	18673	0	0	0
234	0	0	0	0	0	111
262	188	0	565	1193	0	0
283	0		0	0		
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	0	0	0	0	0	0
184	0	0	0	0	0	0
205	0	0	0	0	0	0
226	0	0	0	0	0	0
250	0	0	0	0	0	0
268	0			0		
296	0					

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	0	0	0	0	0	0
183	0	0	0	0	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	0	0	0	0	0
239	0	0	0	0	0	0
253	0		0	0		0
267	0	0	0	0	0	0
281	0			0		
295	0					

Density Listing for Lake 223
Cyclops bicuspidatus thomasi eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	191	0	0	356	0	0
140	0	0	0	0	0	0
156	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
203	0	0	0	0		6876
217	0		3934	0		0
231	0		0	0	0	
245	0	0		0	0	0
259	0	0	0	0	0	
273	0	0		0	0	
287	0	0		0	0	
301	0	0	0	0	0	0
344	0					

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
76	0	0	0	0	0	0
125	0	0	0	0	0	0
138	0	0	0	0	0	0
152	0	0	0	0	0	0
166	0	0	0	0	0	0
180	0	0	0	0	0	0
194	0	0	0	0	0	0
208	0	0	0	0	11690	0
222	0	5508	0	0	5929	0
236	0	3825	0	0		3768
250	0		3616	0		386
264	0		1071	0		0
278	0		0	0		
292	0					

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	0	0	0	0	0
67	0	0	0	0		
130	0			0		
144	0	0	0	0	0	0
158	0	0	0	0	0	0
172	0	0	0	17256	0	0
186	3570	0	0	0	0	0
200	0	0	0	0	0	
216	0	6885	0	0	12802	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0			0		
296	0					

1983 *

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	765	2175	1331	2656	5273	1651
47	1348	3414	4118	4682	8275	5174
75	86	1759	3488	298	4265	4326
164	0	6618	11361	0	16041	14090
181	0	4896	3596	0	10127	4459
185	0	803	4686	0	2291	3801
192	0	1032	2601	0	3124	2689
206	0	0	6264	0	0	5081
220	244	239	693	1024	512	562
234	0	29754	717	0	54631	130
248	0	12178	535	0	27455	26
262	0	135233	3175	0	53458	156
276	2990		0	20802		0
290	0			0		
348	0	0	0	0	0	0

* Loose eggs were identified and combined with eggs attached to ovid females.

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	4672			33119		
170	2822		9457	11808		28077
198	585		5792	2449		17196
226	154		3097	748		7134
254	0		10112	0		12541
282	3227			23030		
310	2256			16140		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	4074	20371	1320	9292	24278	4837
150	15278	0	10940	41235	0	25386
164	0	12449	15437	0	12508	35822
178	0	377	13580	0	1113	20179
206	377	4850	8488	1444	10031	10526
220	348	0	5517	4102	0	4475
234	226	7469	49957	1279	7778	22606
262	0	12732	0	0	8016	0
283	0		970	0		319
290	121			867		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	902			6440		
156	1147	6885	14690	3097	22019	18218
184	382	3672	32364	1032	11743	40137
205	229	9869	3060	960	24756	1360
226	0	0	3552	0	0	2230
250	0	459	0	0	1151	0
268	0	408	0	0	344	0
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	0	0	0	0	0	0
183	0	0	0	0	0	0
197	0	0	0	0	0	0
211	0	109	0	0	183	0
225	0	0	484	0	0	222
239	102	242	573	576	316	104
253	0	1936	8715	0	2306	568
267	946		0	6336		0
281	2653	16358	2677	18810	803	43
295	4718			33710		

Density Listing for Lake 223
Keratella cochlearis eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	2339			16696		
126	39785	7039	2416	74115	13835	8032
140	1785	66355	163	2523	264864	286
156	286	136094	22379	996	329879	26695
168	208	28538	24485	940	73085	1616
182	382	103289	31624	1848	219192	6250
189	3060	62321	68094	15666	122678	4444
203	1211	84353	46863	5855	190174	3058
217	874		54104	4726		34558
231	1243		41746	7331		49722
245	2104	2486		12406	2961	
259	1549	2677	956	10368	1058	62
273	765	2677		3697	6037	
287	588	0		3012	0	
301	245	109		1329	191	
344	765	765	0	2656	1854	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	95	95	0	332	231	0
41	191	95	76	664	231	94
76	478	573	459	1660	1390	569
125	7651	4208	334	26569	5725	776
138	1224	22953	3169	5122	28028	5579
152	0	1721	70581	0	4172	88673
166	1391	5683	8951	6271	10327	7405
180	1147	1721	382	5546	1850	480
194	127	368	1721	344	1473	765
208	0	765	1434	0	1422	660
222	0	2295	1147	0	4870	226
236	273	573	127	1476	899	25
250	45		69	275		72
264	0		0	0		0
278	0		0	0		0
292	109			781		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	0	0	0	0	0
41	0	95	0	0	231	0
67	0	0	0	0	0	0
130	0			0		
144	0	0	0	0	0	0
158	95	0	0	332	0	0
172	0	0	0	0	0	0
186	0	0	0	0	0	0
200	0	0	0	0	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	0	0	0	0	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	0	0	0	0	0	0
234	0	0	0	0	0	0
248	0	0	0	0	0	0
262	0	0	0	0	0	0
276	0		0	0		0
290	58			420		
348	0	95	0	0	231	0

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	0			0		
170	0		0	0		0
198	0		0	0		0
226	0		0	0		0
254	0		0	0		0
282	76			548		
310	33			237		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	679	0	0	1548	0	0
150	0	0	0	0	0	0
164	0	0	0	0	0	0
178	565	0	308	1527	0	458
206	0	0	0	0	0	0
220	565	0	0	2734	0	0
234	3395	0	485	19185	0	219
262	377	15278	0	2386	9619	0
283	1955		7760	9929		2554
290	7154			51173		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	0			0		
156	0	0	0	0	0	0
184	2677	459	688	7227	1467	853
205	0	0	0	0	0	0
226	0	0	0	0	0	0
250	229	229	860	960	575	382
268	420	408	0	2567	344	0
296	235			1680		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	127	0	0	344	0	0
169	2805	382	0	7571	1035	0
183	688	382	0	2881	467	0
197	5432	1275	0	22729	2183	0
211	8033	3279	0	38827	5495	0
225	4105	13280	11135	21014	20891	5128
239	459	0	0	2594	0	0
253	215	430	4841	1258	512	316
267	344		0	2304		0
281	1004	5164	382	7117	253	6
295	828			5922		

Density Listing for Lake 223
Keratella taurocephala eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	44			315		
126	0	0	40	0	0	133
140	2805	69	0	7665	277	0
156	1338	0	0	4649	0	0
168	2225	264	0	10035	683	0
182	2422	0	0	11710	0	0
189	825	0	0	4218	0	0
203	1211	0	0	5855	0	0
217	2951		1475	15951		2578
231	1912		4303	11278		5125
245	95	0		563	0	
259	0	0	0	0	0	0
273	0	0		0	0	
287	0	0		0	0	
301	368	109		1993	191	
344	2486	1147	854	9635	2781	1041

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	1147	382	306	3985	927	379
41	1817	1434	306	6310	3477	379
76	2677	2964	3213	9299	7186	3985
125	21518	15493	621	74727	21078	1442
138	6962	7651	546	20139	9342	965
152	2486	880	256	8629	2086	360
166	6399	1095	1032	28851	1986	954
180	3156	4303	0	15253	4576	0
194	15174	983	573	40955	3928	255
208	2295	0	95	11093	0	44
222	1976	459	382	9552	374	75
236	2951	286	765	15951	444	151
250	4365		956	26678		579
264	680		1300	4302		1076
278	963		2295	6883		20
292	491			3518		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	765	0	0	2656	0	0
41	95	95	0	332	231	0
67	286	95	0	996	231	0
130	955			2540		
144	0	1338	0	0	1635	0
158	23240	2677	510	80705	6490	640
172	2295	510	0	9603	873	0
186	3570	765	306	17256	1141	253
200	459	0	0	1920	0	0
216	1275	382	0	6163	711	0
228	573	0	109	2773	0	49
242	983	0	510	5317	0	100
256	95	255	0	563	270	0
270	850	573	255	5377	761	50
284	860	6120	5355	6100	300	86
296	1256			8990		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	669	0	0	2324	0	0
47	286	0	318	996	0	400
75	0	0	0	0	0	0
164	0	1912	535	0	4636	664
181	170	0	0	650	0	0
195	1721	0	0	5978	0	0
192	14865	2601	0	45870	7869	0
206	10902	0	1338	37862	0	1086
220	2448	956	0	10244	2048	0
234	0	0	0	0	0	0
248	1657	255	0	8012	574	0
262	153	382	0	1024	151	0
276	159		382	967		69
290	176			1260		
348	1530	191	229	5313	463	284

Density Listing for Lake 223
Kellicottia longispina eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	4903			34752		
170	3344		12568	13995		37313
198	752		8199	3148		24342
226	464		3223	2245		7825
254	696		2074	4109		2572
282	998			7128		
310	1825			13054		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	84200	138071	0	192053	164551	0
150	13014	6790	11505	35126	14492	26699
164	377	13580	8626	1444	13645	20018
178	2829	754	25618	7636	2227	38065
206	0	5335	30896	0	11034	38317
220	282	3961	24615	1367	5911	19966
234	2263	0	44137	12790	0	19972
262	943	8488	0	5965	5344	0
283	2101		1455	14342		478
290	3152			22550		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	2707			19321		
156	17597	17903	17903	47494	57249	22203
184	382	14460	71614	1032	46239	88815
205	2295	67712	13771	9603	169839	6120
226	688	3499	7104	2881	8136	8460
250	5967	2524	860	24970	6332	382
268	3420	5712	2040	20903	4822	370
296	2393			17081		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	8791			62888		
155	30859	28309	408	83287	68514	829
169	15684	15780	7159	42332	42706	12512
183	12165	67329	2380	50900	82217	4160
197	382	44758	3768	1600	76649	4734
211	0	9399	2871	0	15752	1849
225	0	66400	39217	0	104458	18062
239	255	13504	22379	1441	17615	4062
253	430	8177	41638	2537	9739	2717
267	1807		0	12096		0
281	789	12911	765	5592	634	12
295	1147			8199		

Density Listing for Lake 227
Kellicottia longispina eggs

1980

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	132			945		
126	4016	2142	604	7482	4210	2008
140	765	7233	109	1081	28874	191
156	1052	8798	2390	3653	21327	2847
168	1530	11653	3978	6899	30053	262
182	1402	16526	5610	6779	35070	1108
189	275	11128	22188	1205	21906	1448
203	446	25527	10328	2157	53041	674
217	765		25576	4135		44700
231	382		40455	2255		48184
245	0	2677		0	3189	
259	344	382	0	2304	151	0
273	0	382		0	862	
287	235	0		1205	0	
301	122	218		664	382	
344	191	573	0	664	1390	0

1981

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	95	95	0	332	231	0
41	956	1338	841	3321	3245	1043
76	1721	2104	765	5978	5100	948
125	32612	44376	18956	113254	60372	47928
138	7192	57585	124822	30092	70072	218153
152	1243	6240	980394	4317	15126	1231694
166	1112	26013	470313	5017	47267	389082
180	4016	12050	11859	19413	12814	14899
194	127	1106	48201	344	4419	21423
208	0	765	3825	0	1422	1761
222	0	9640	15939	0	20458	3150
236	0	2104	1275	0	3261	252
250	270		975	1650		1014
264	0		0	0		0
278	56		0	404		0
292	54			390		

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	191	0	76	664	0	94
41	0	0	0	0	0	0
67	0	0	382	0	0	304
130	464			3322		
144	382	573	54	1600	700	95
158	382	0	0	1328	0	0
172	0	0	0	0	0	0
186	0	255	0	0	380	0
200	153	0	0	640	0	0
216	0	0	0	0	0	0
228	0	0	0	0	0	0
242	0	382	0	0	592	0
256	0	0	0	0	0	0
270	0	0	0	0	0	0
284	0	0	0	0	0	0
296	0			0		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	0	0	0	0
75	0	0	0	0	0	0
164	0	0	0	0	0	0
181	0	0	0	0	0	0
185	0	0	0	0	0	0
192	0	0	0	0	0	0
206	0	0	0	0	0	0
220	306	95	95	1280	304	77
234	0	170	382	0	312	69
248	63	127	382	308	287	18
262	0	0	0	0	0	0
276	121		0	846		0
290	255			1680		
348	286	765	535	996	1854	664

Density Listing for Lake 223
Kellicottia bostoniensis eggs

1974

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
142	625			4431		
170	0		1617	0		4802
198	0		1182	0		3512
226	0		1137	0		2620
254	0		432	0		535
282	230			1645		
310	132			949		

1977

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
136	0	0	3772	0	0	13822
150	5092	0	11505	13745	0	26699
164	0	3395	30288	0	3411	70285
178	565	377	53705	1527	1113	79800
206	377	2910	42779	1444	6018	53054
220	848	6790	33952	4102	10134	27540
234	0	1358	26191	0	1414	11851
262	0	11034	0	0	6947	0
283	0		0	0		0
290	0			0		

1978

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
128	156			1120		
156	0	688	918	0	2201	1138
184	0	0	36954	0	0	45831
205	0	77582	0	0	194595	0
226	0	0	29128	0	0	18287
250	0	2065	4303	0	5181	1912
268	0	408	255	0	344	46
296	0			0		

1979

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
141	0			0		
155	0	0	0	0	0	0
169	0	0	54	0	0	95
183	0	0	0	0	0	0
197	0	0	0	0	0	0
211	0	0	0	0	0	0
225	0	553	968	0	870	445
239	0	340	3825	0	443	694
253	0	9037	66815	0	10754	4361
267	0		0	0		0
281	50640	525918	102524	358923	25842	1654
295	26587			189964		

Density Listing for Lake 223
Kellicottia bostoniensis eggs

1982

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	95	1071	0	231	1328
41	95	95	1530	532	231	1897
67	0	382	1147	0	927	913
130	464			3322		
144	382	1912	491	1600	2335	859
158	0	2486	2167	0	6027	2723
172	0	255	4208	0	436	5286
186	0	255	35195	0	380	29116
200	153	1224	2104	640	3070	969
216	63	2486	14537	308	4623	6460
228	0	58913	7432	0	109531	3363
242	0	99104	36470	0	91615	7208
256	286	34940	2104	1691	36980	381
270	1190	27926	3442	7528	17583	680
284	9037	9946	8798	64057	488	141
296	2841			20327		

1983

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
12	0	0	0	0	0	0
47	0	0	63	0	0	80
75	0	0	229	0	0	284
164	0	0	1989	0	0	2467
181	0	0	35960	0	0	44597
195	765	0	99326	2656	0	72457
192	218	0	189764	674	0	195753
206	956	1530	29456	3321	4365	23893
220	153	0	5929	640	0	4809
234	117	5780	3634	602	10614	659
248	0	1593	1530	0	3593	75
262	38	191	382	256	75	18
276	278		8607	1935		1562
290	117			840		
348	296	95	14996	996	231	18598

1980

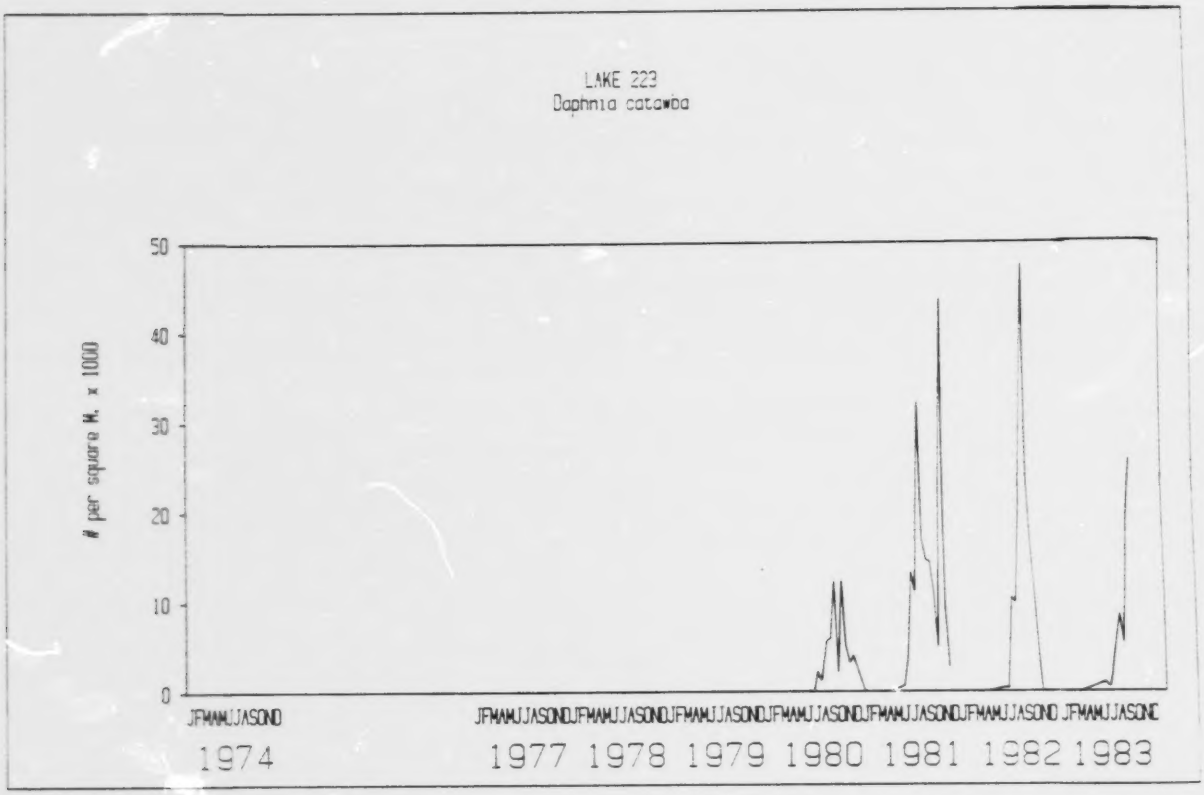
Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
78	0			0		
126	0	765	120	0	1503	401
140	0	904	54	0	3609	35
156	0	286	4590	0	695	5467
168	69	9004	1856	313	23223	121
182	0	18056	12751	0	38318	2520
189	0	25318	22188	0	49857	1448
203	0	96403	52218	0	217342	3408
217	109		158623	580		277228
231	95		548728	563		693563
245	191	81866		1127	97507	
259	2582	13771	3825	17281	5444	249
273	0	0		0	0	
287	7651	0		39167	0	
301	5041	2951		27250	5157	
344	2295	573	21144	7970	1390	26394

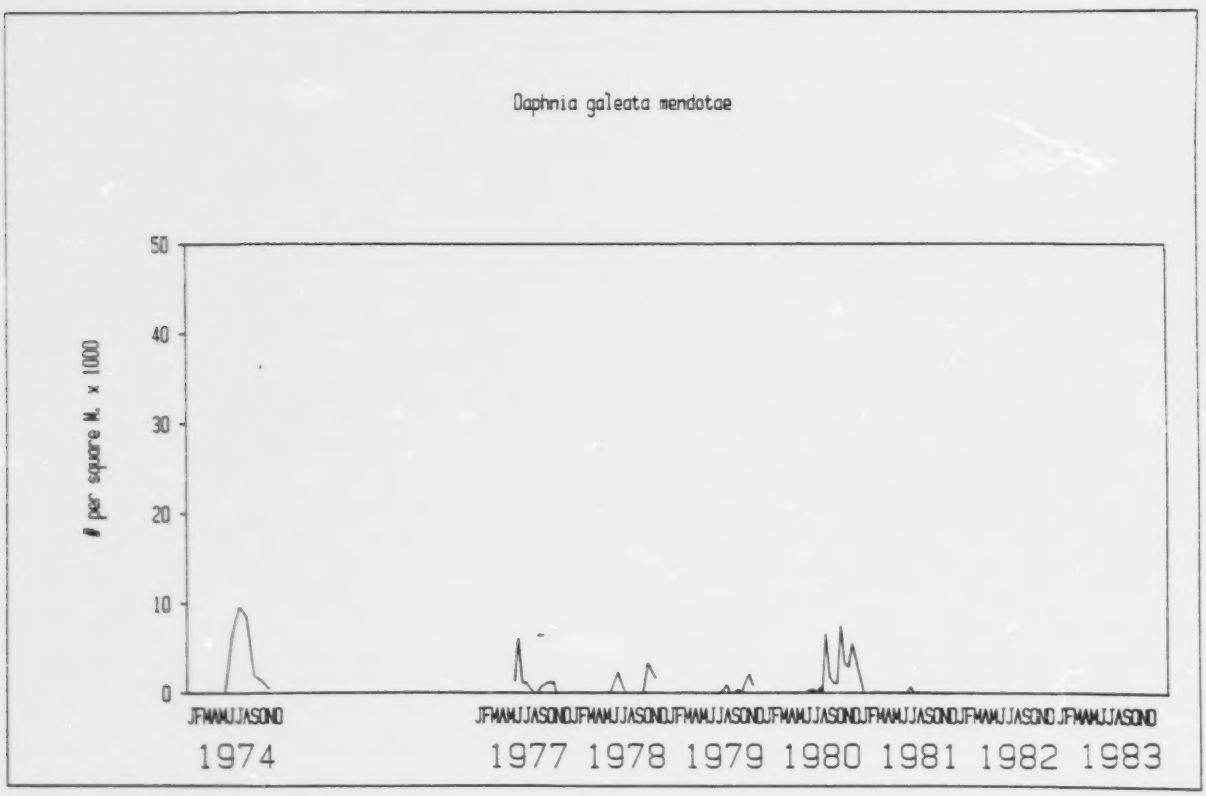
1981

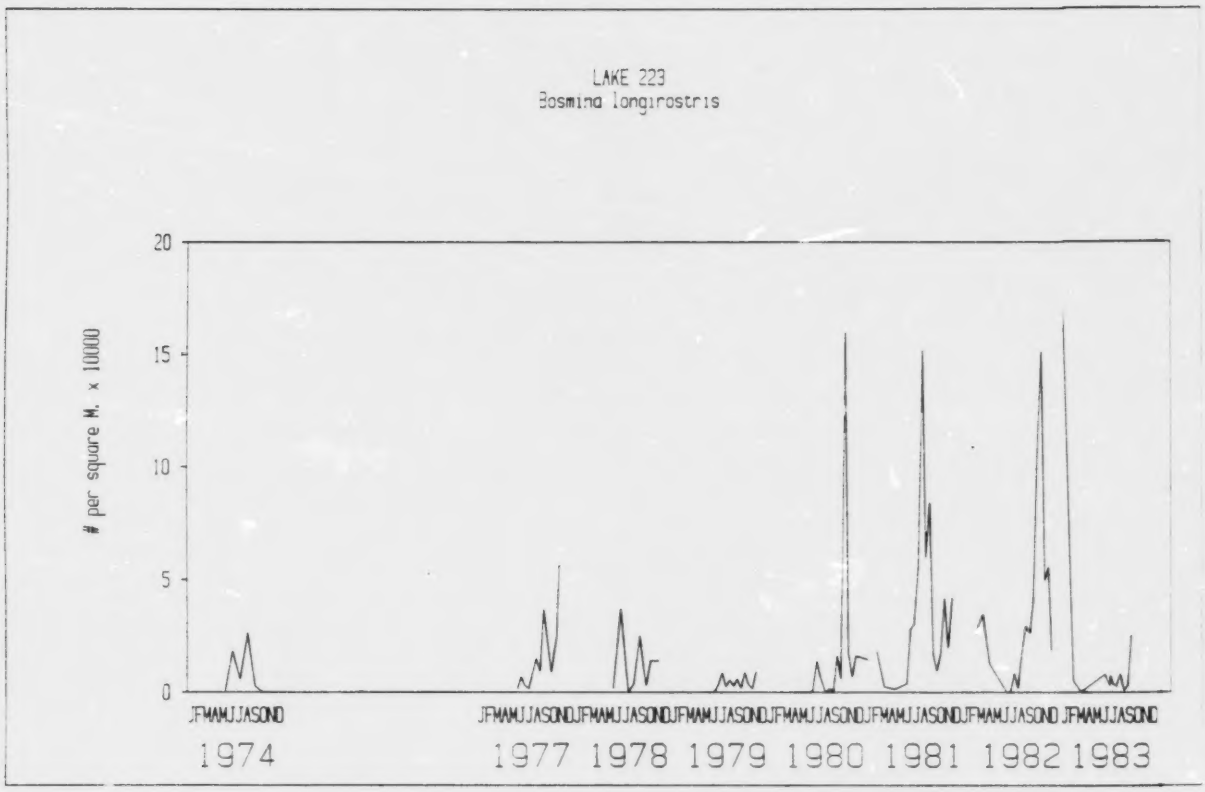
Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
13	0	1147	4820	0	2781	5977
41	191	191	2065	664	463	2561
76	573	669	2448	1992	1622	3036
125	8416	11295	3299	29226	15353	7654
138	668	41315	1748	2881	50451	3056
152	191	0	178462	664	0	224206
166	0	437	342578	0	794	283409
180	3729	11189	10584	18027	11899	13296
194	0	0	6312	0	0	2805
208	0	0	95	0	0	44
222	0	0	0	0	0	0
236	0	669	0	0	1037	0
250	0		0	0		0
264	0		76	0		63
278	56		510	404		4
292	218			1563		

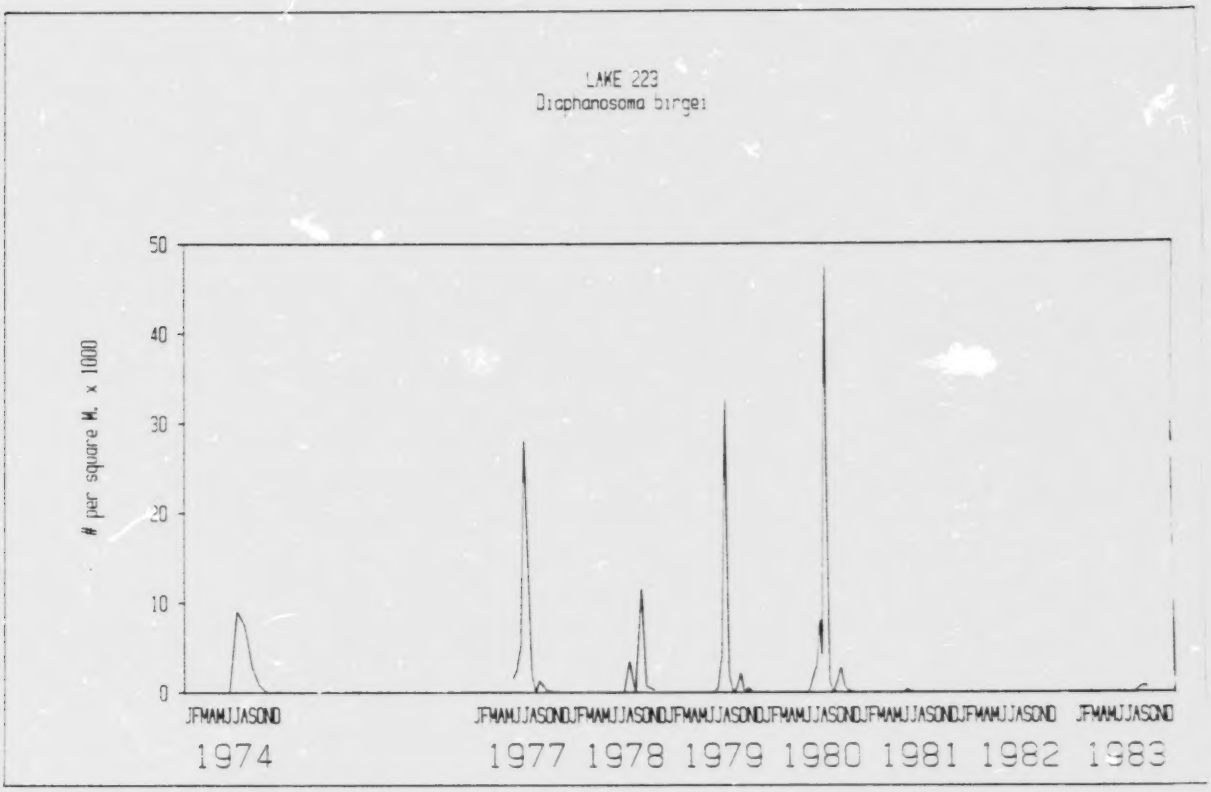
Appendix 4

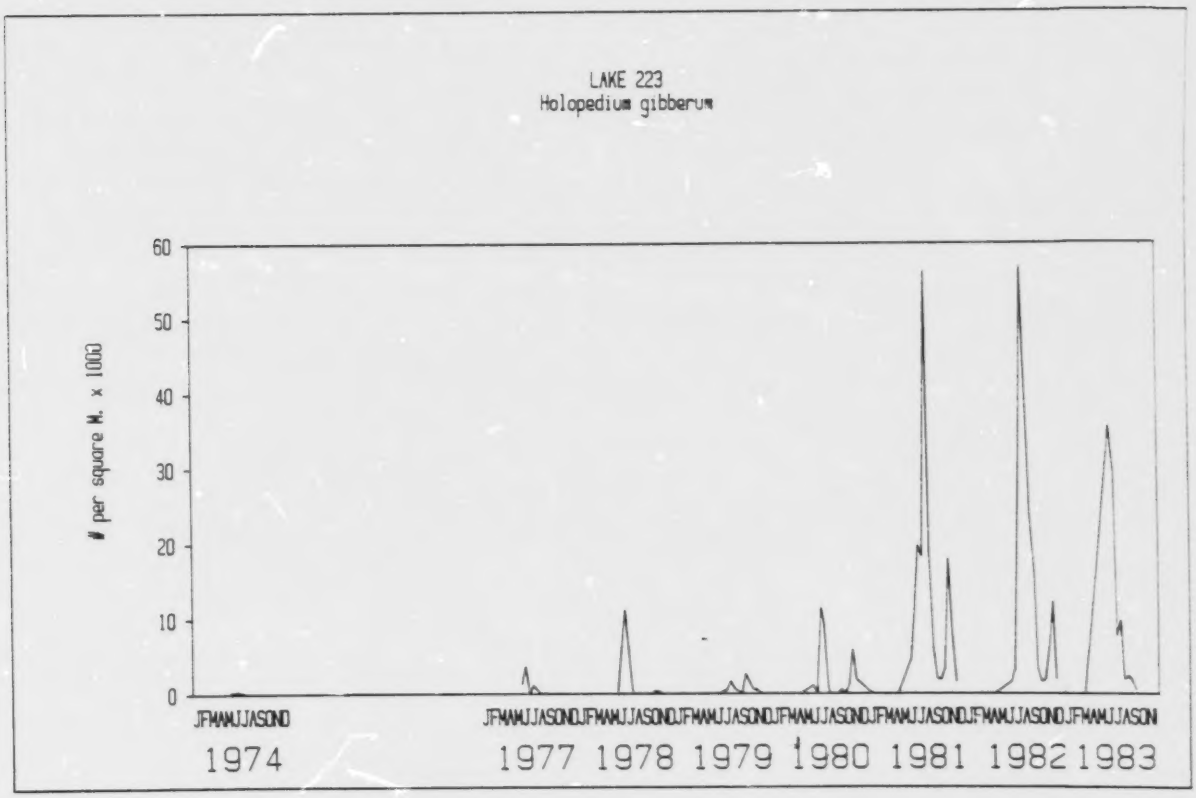
Figures showing lake volume-weighted abundance (numbers per square metre) of zooplankton species and life stages of copepods at the routine sampling station for the years 1974, 1977-1983. Since only the top 2 m of the water column were sampled during 1975-1976, data from this period are excluded.

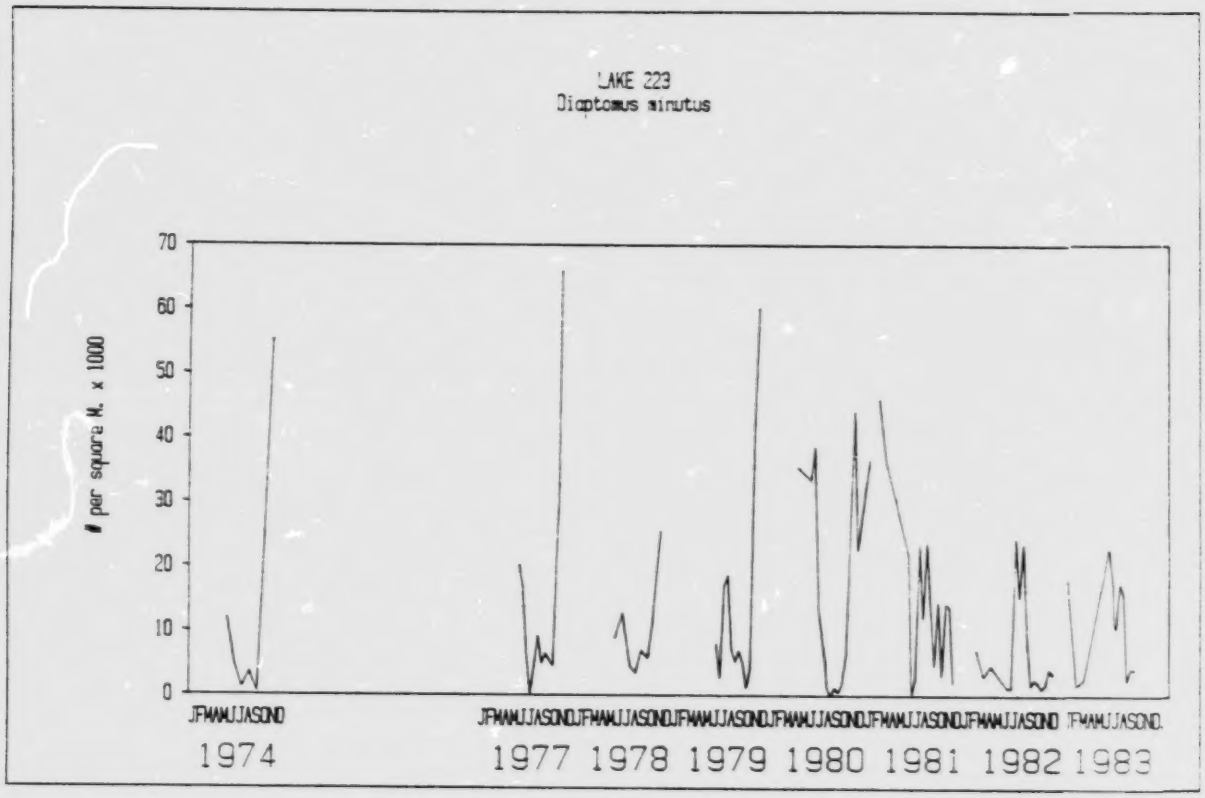

LAKE 223
Daphnia catawba
per square M. x 1000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

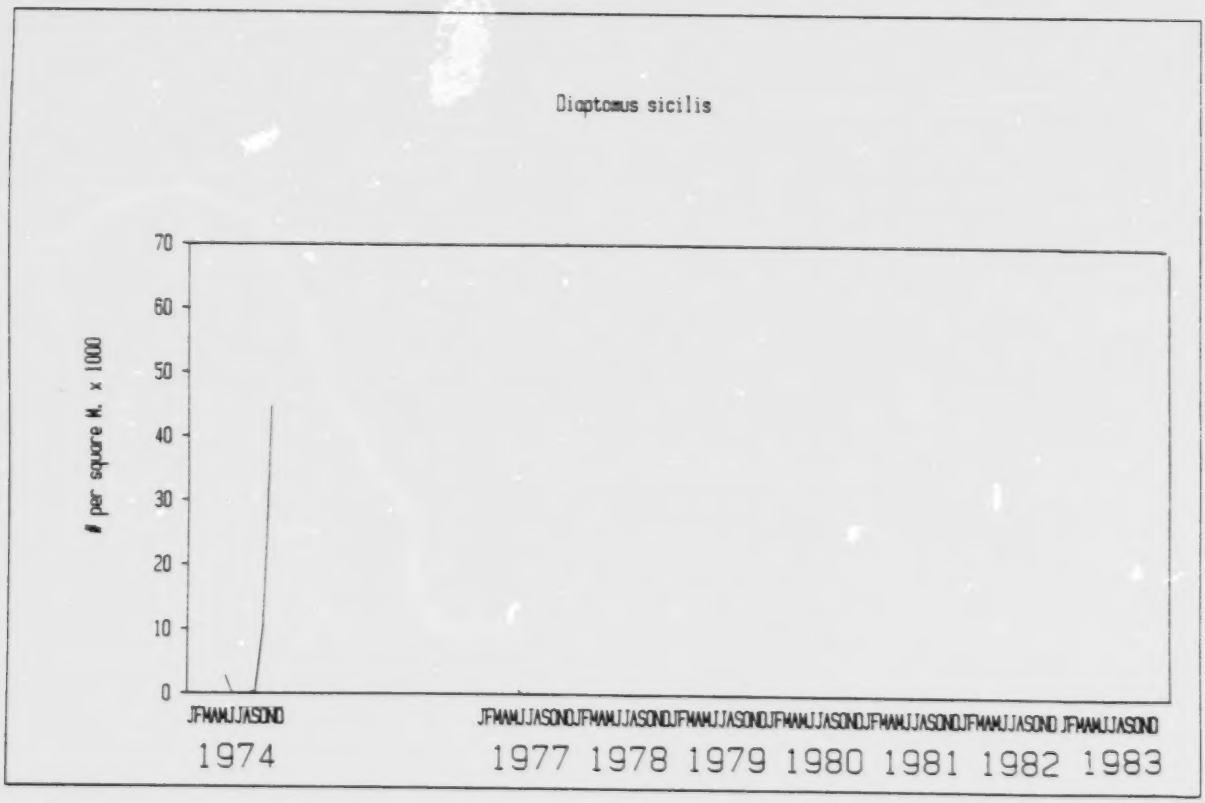

Daphnia galeata mendotae
per square M. x 1000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

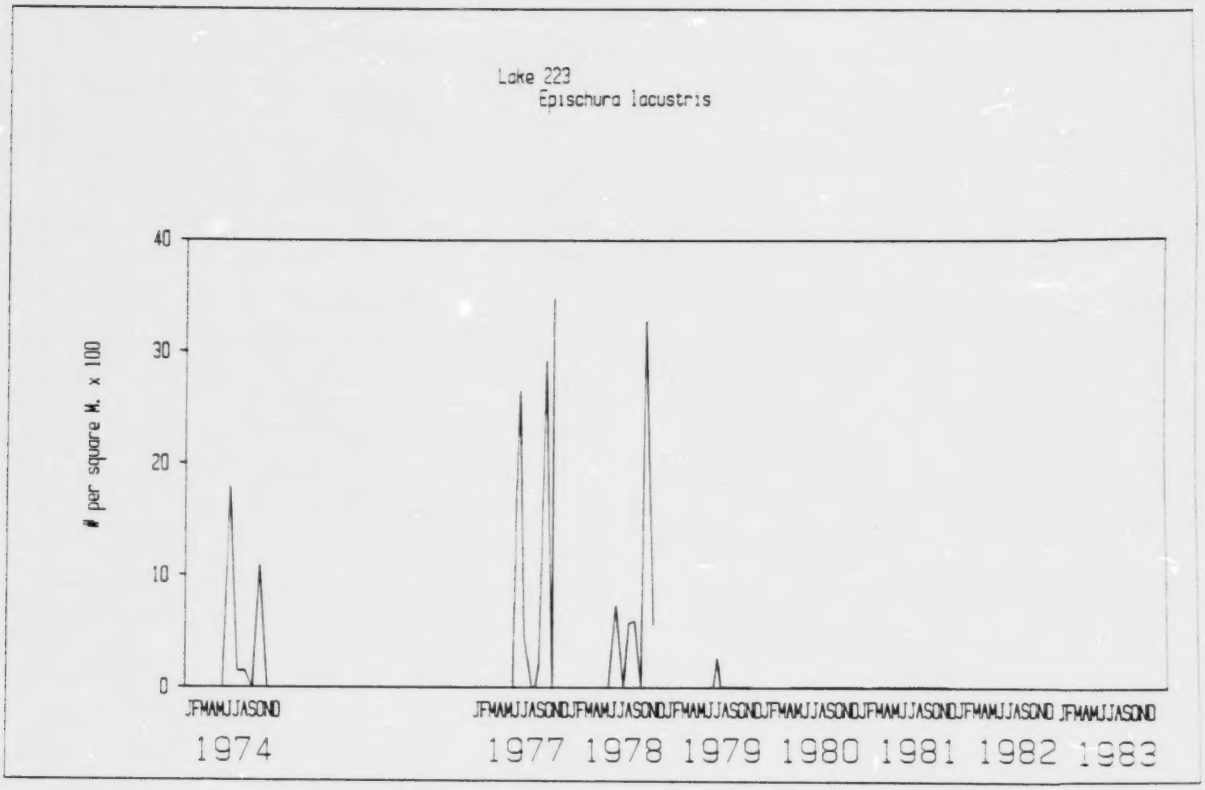

LAKE 223
Bosmina longirostris
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977
1978
1979
1980
1981
1982
1983

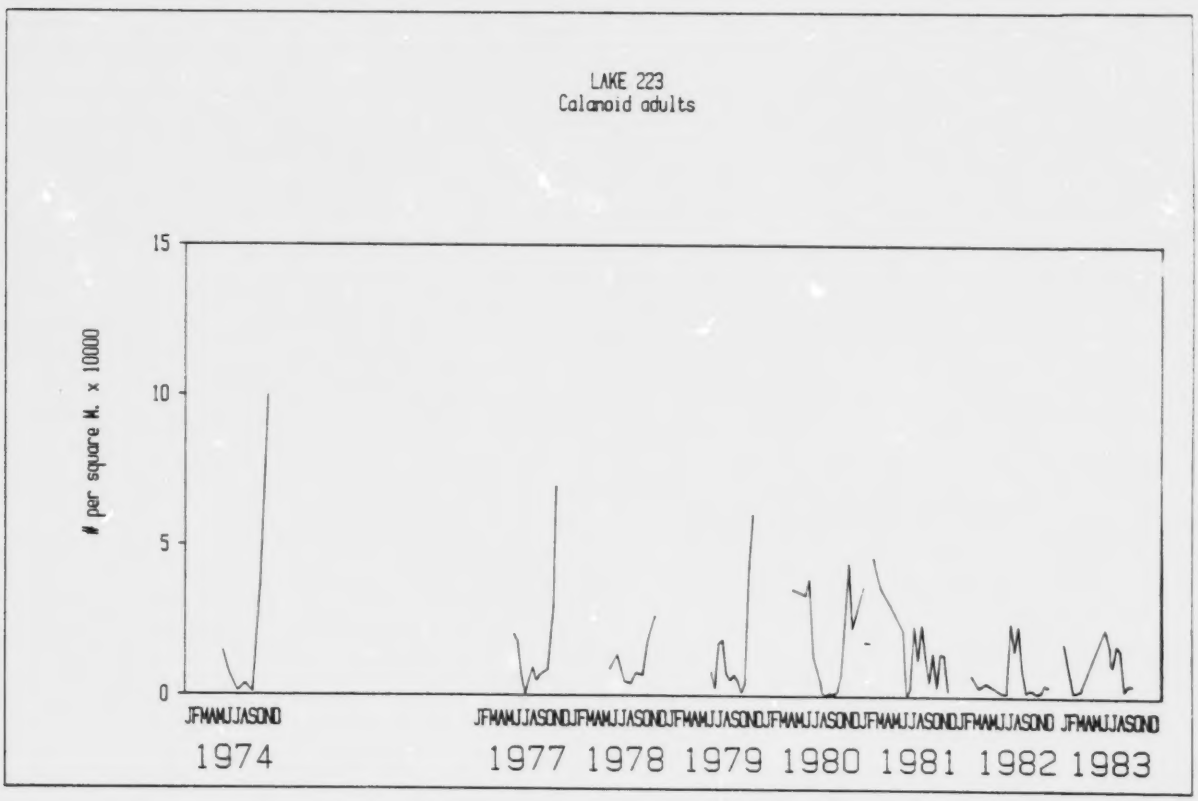

LAKE 223
Diaphanosoma birgei
per square M. x 1000
0
10
20
30
40
50
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

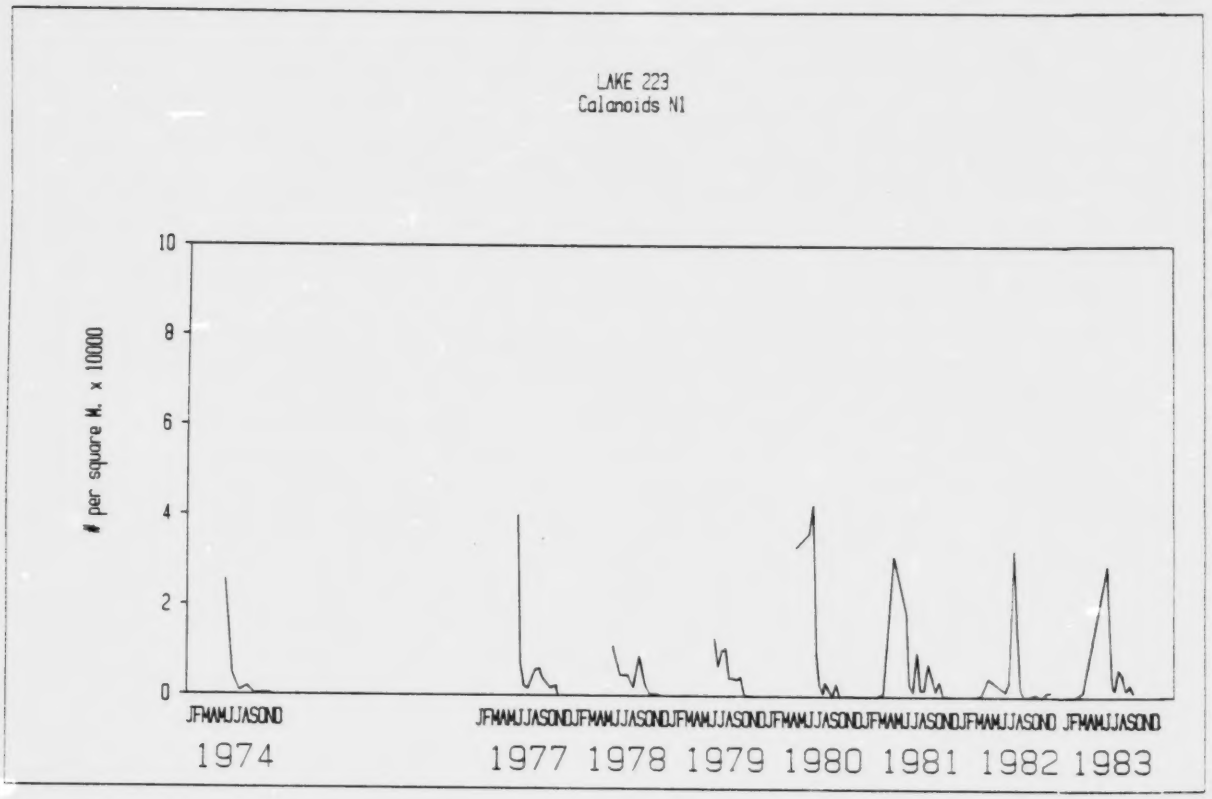

LAKE 223
Holopedium gibberum
per square M. x 1000
0
10
20
30
40
50
60
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

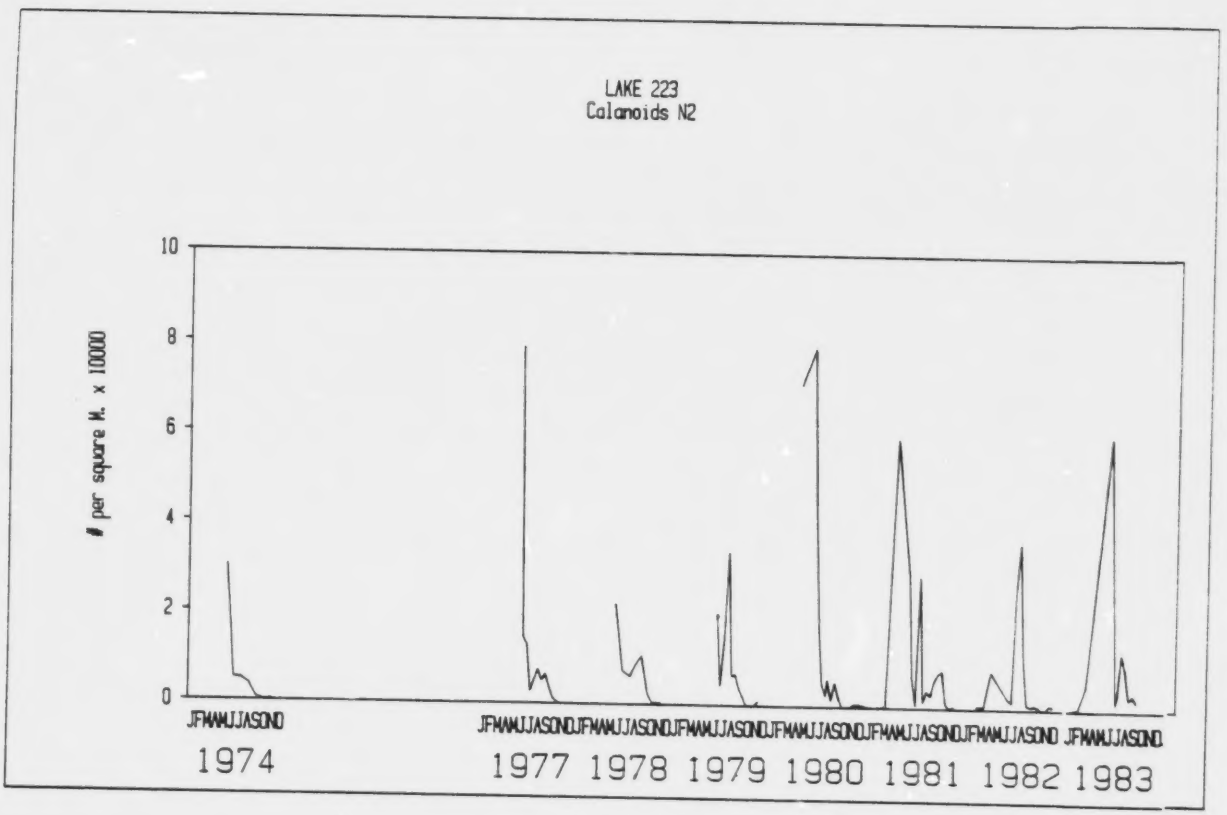

LAKE 223
Diaptomus minutus
per square M. x 1000
70
60
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

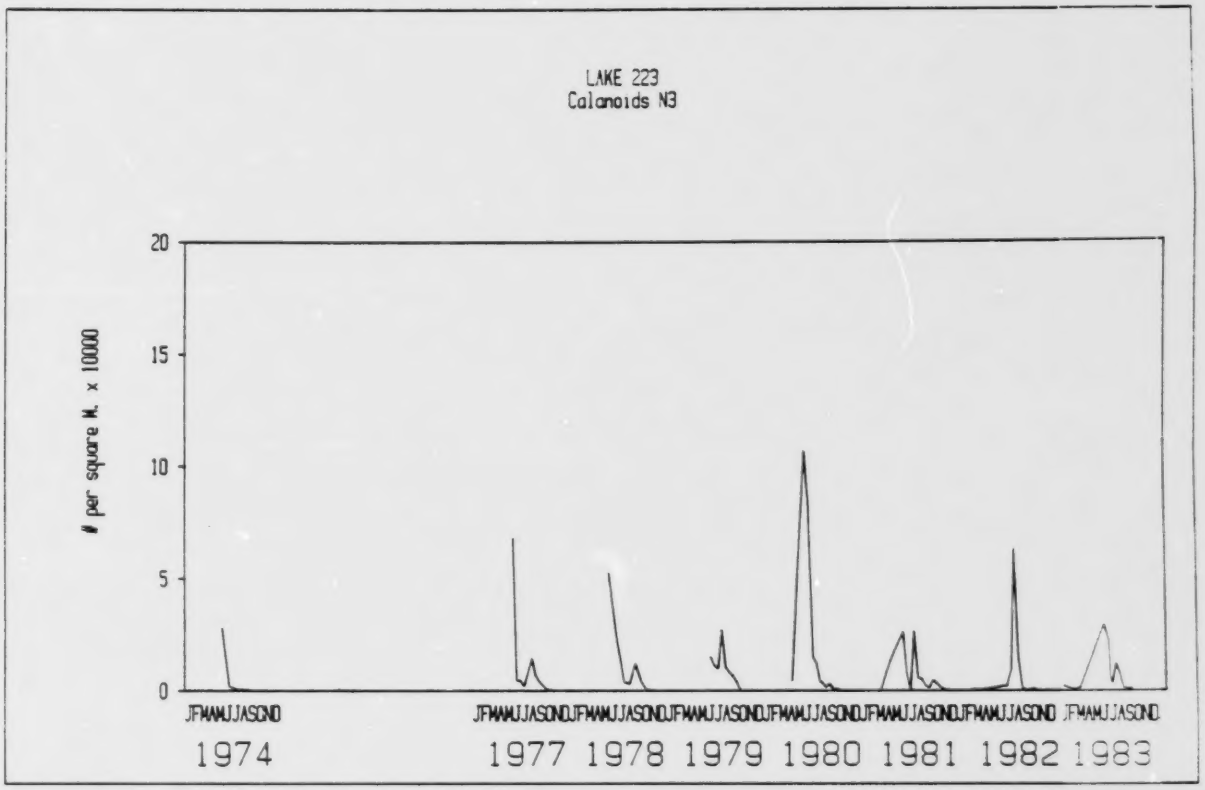

Diaptomus sicilis
per square M. x 1000
70
60
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

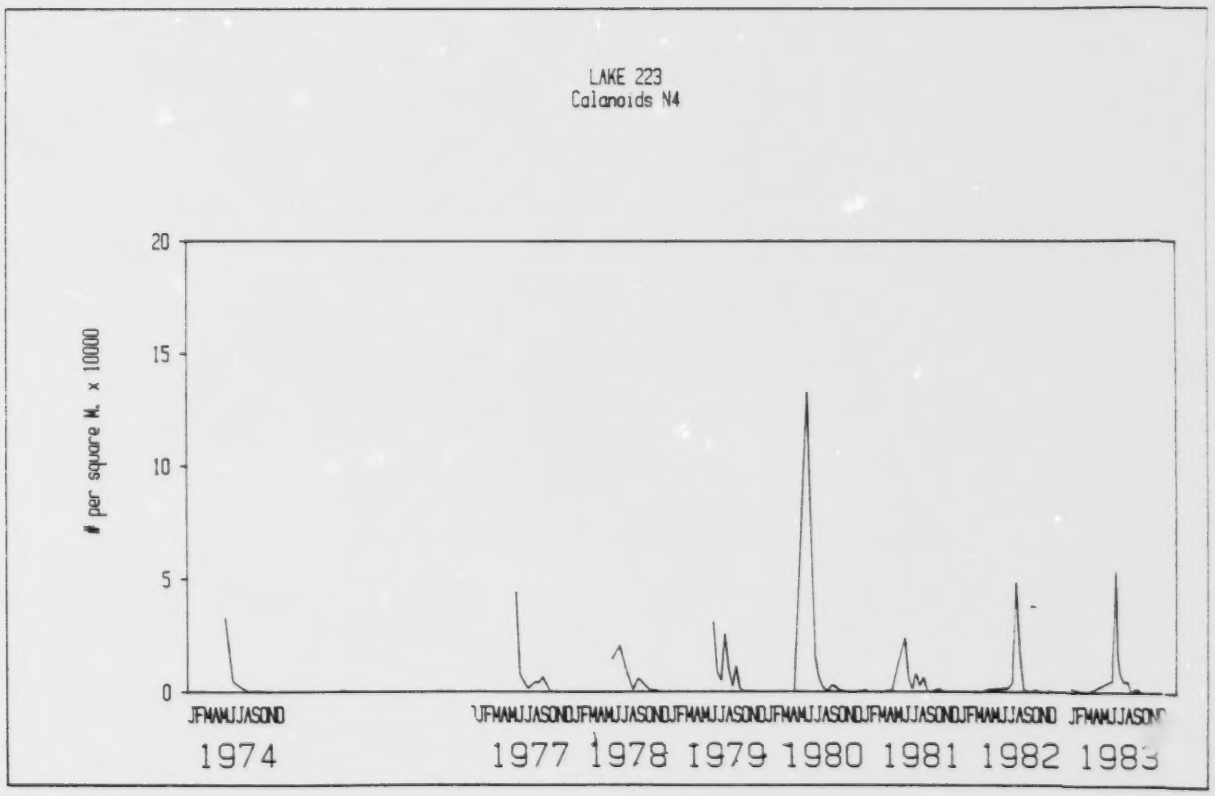

Lake 223
Epischura lacustris
per square M. x 100
40
30
20
10
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

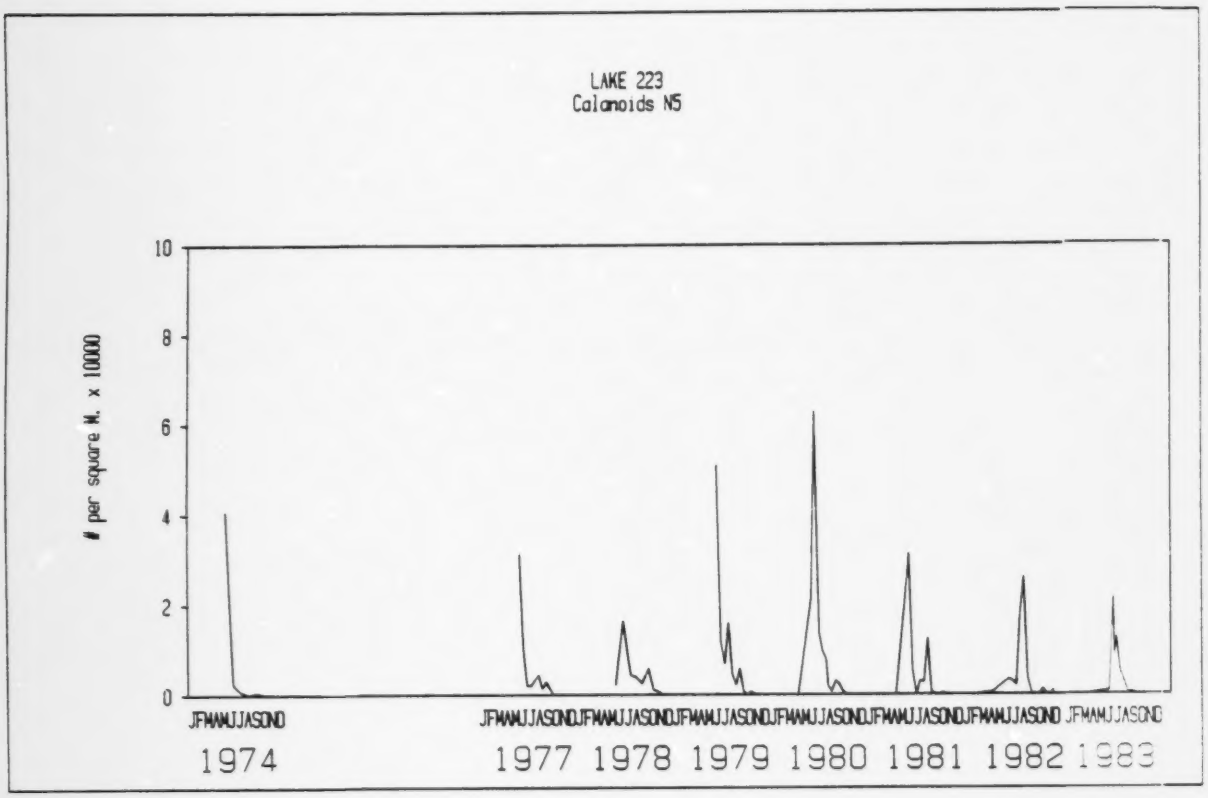

LAKE 223
Calanoid adults
per square M. x 10000
15
10
5
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

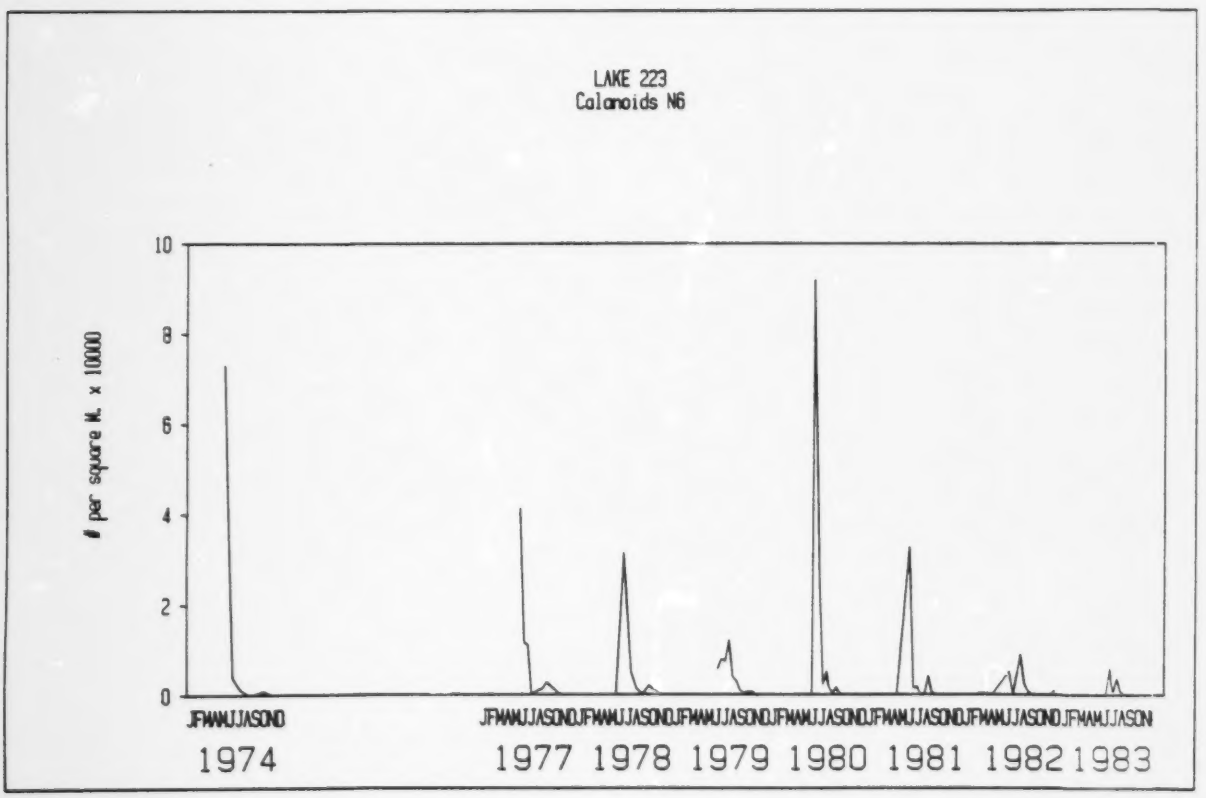

LAKE 223
Calanoids N1
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

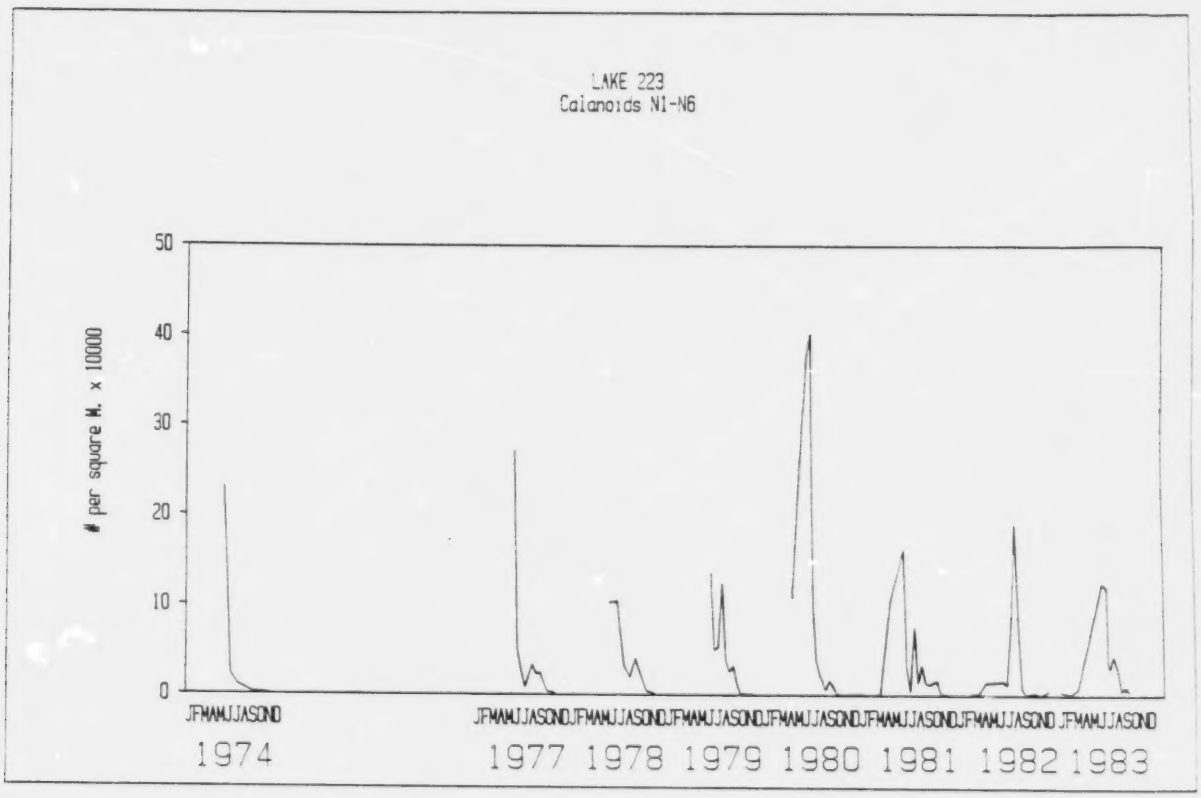

LAKE 223
Calanoids N2
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

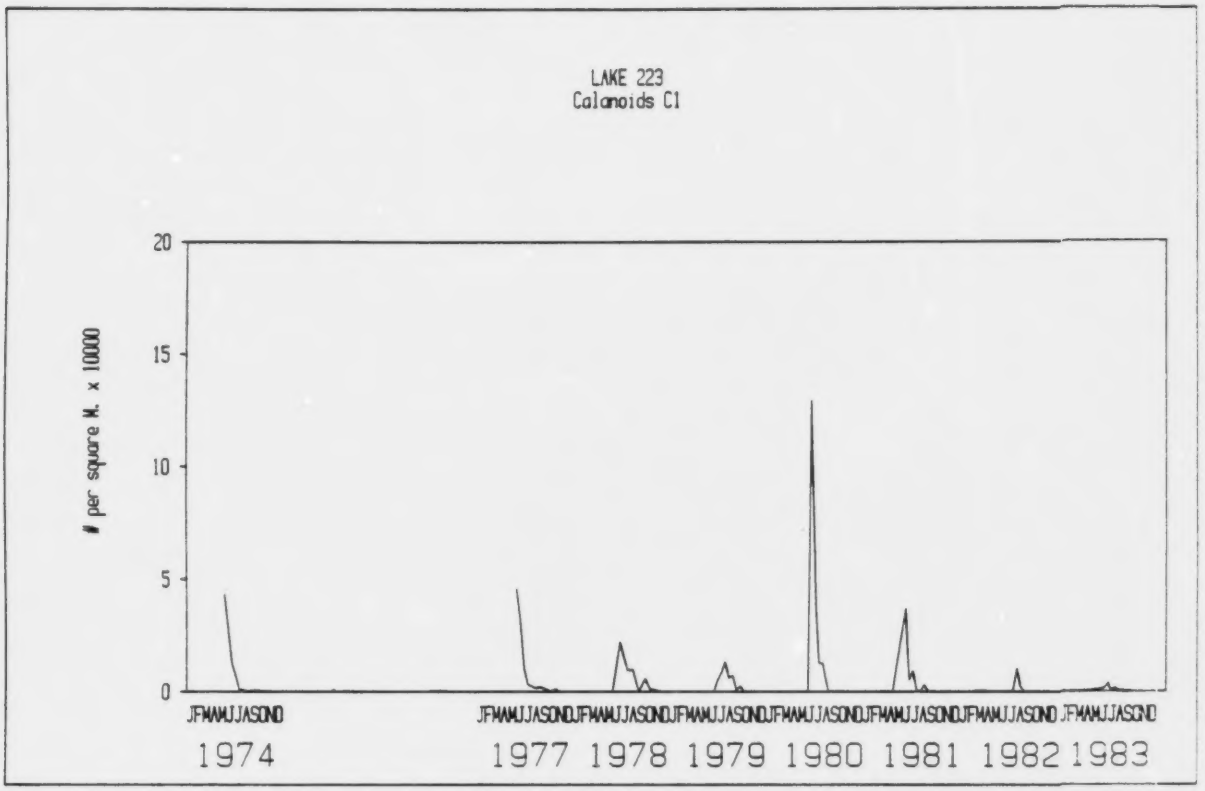

LAKE 223
Calanoids N3
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

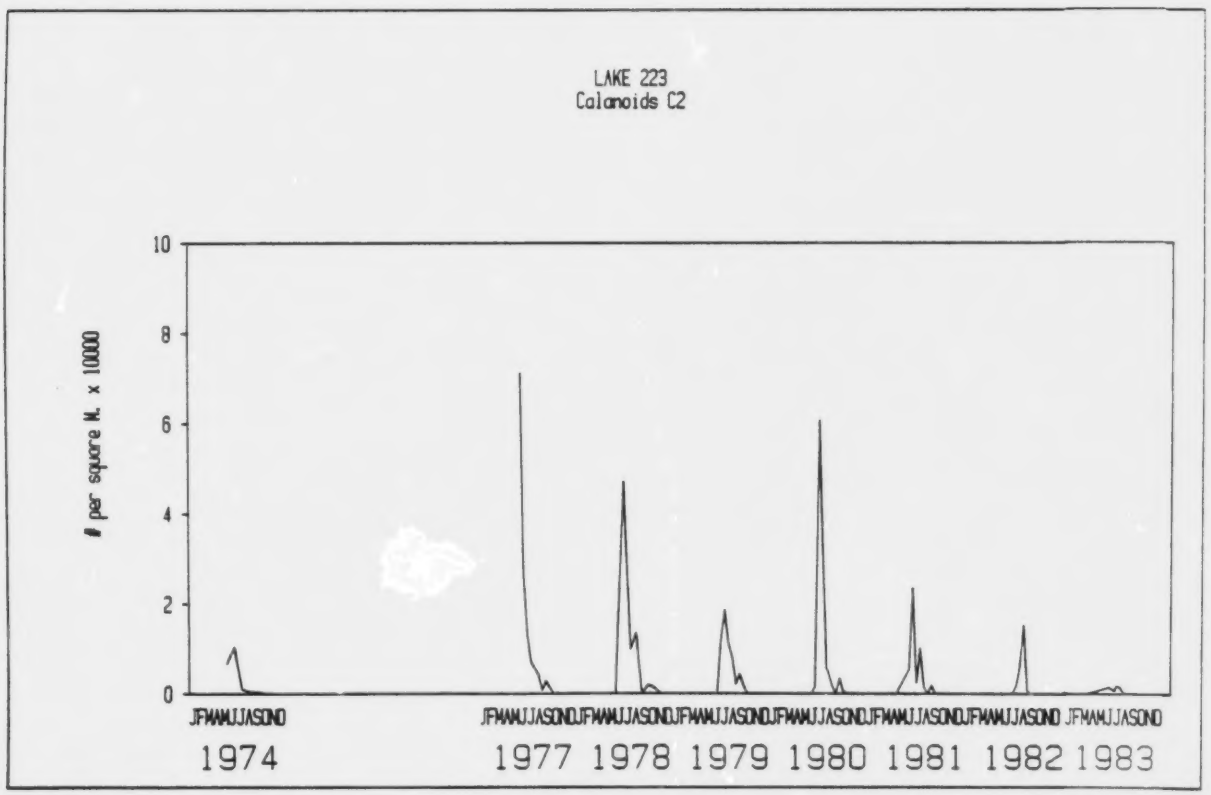

LAKE 223
Calanoids N4
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

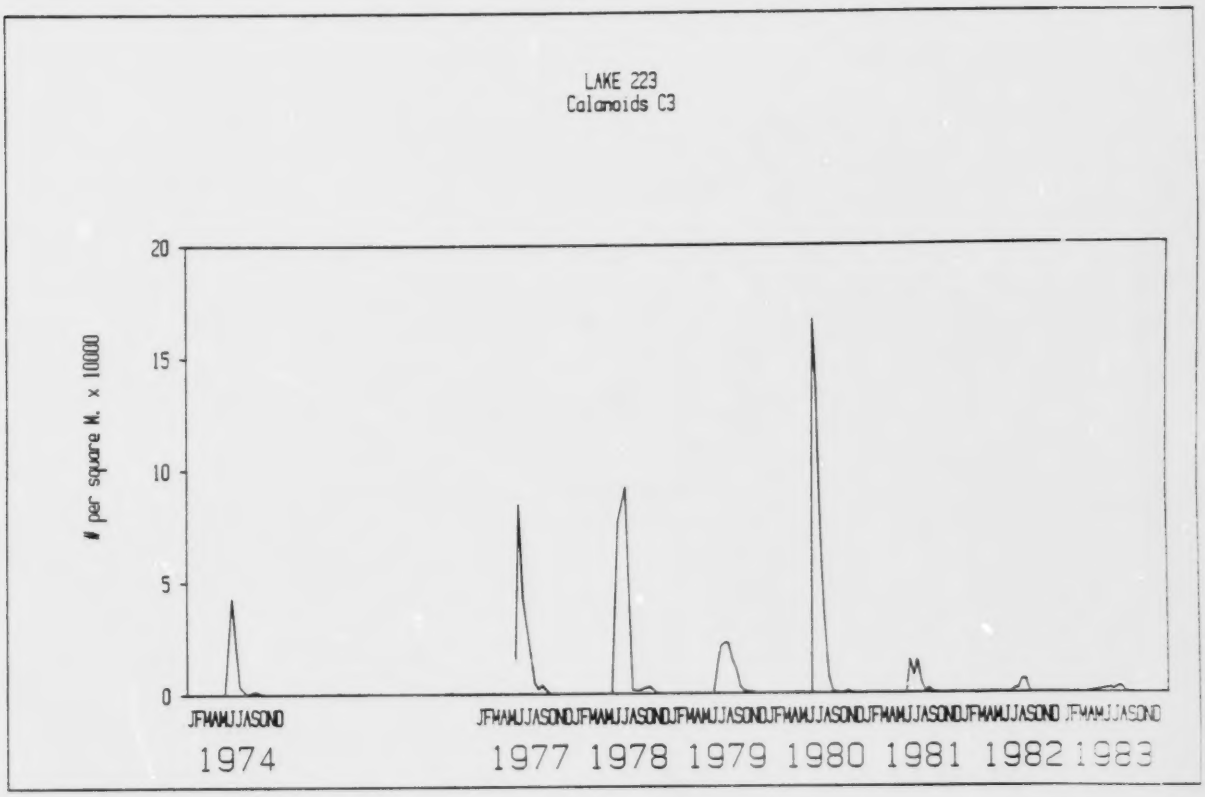

LAKE 223
Calanoids N5
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

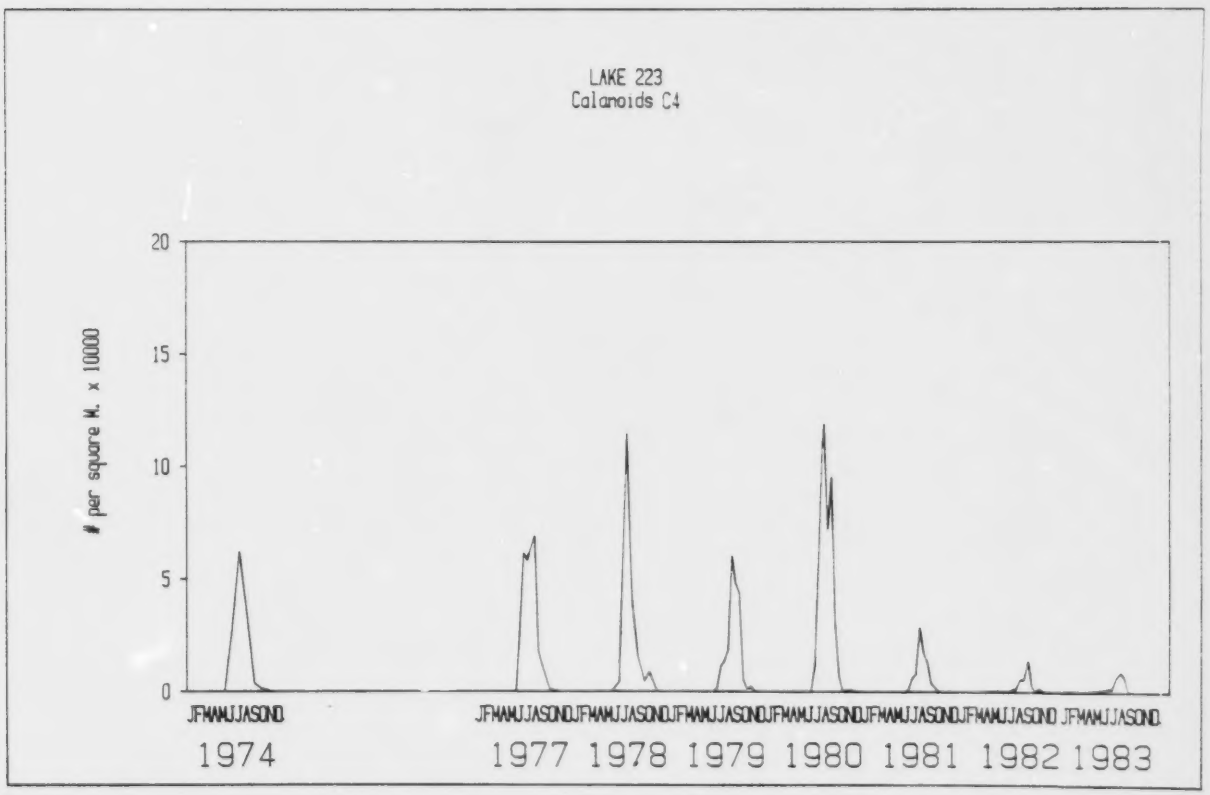

LAKE 223
Calanoids N6
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

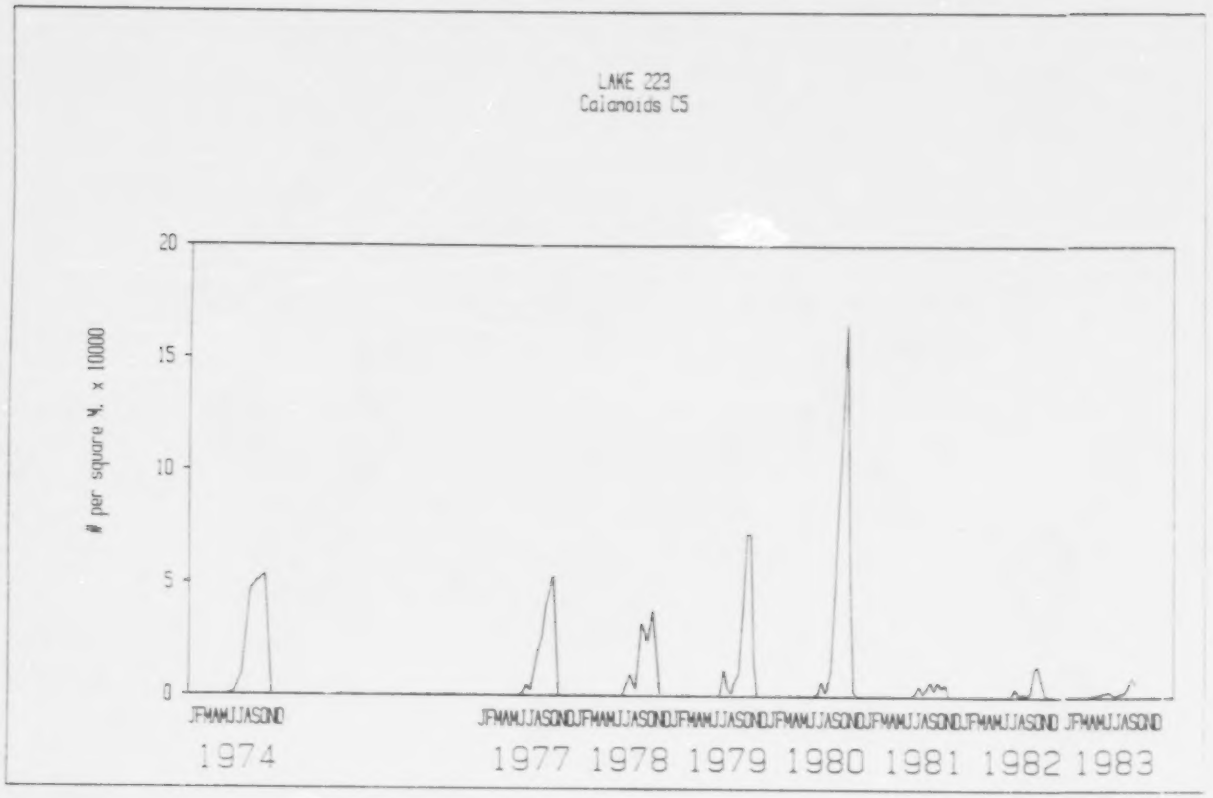

LAKE 223
Calanoids N1-N6
per square M. x 10000
50
40
30
20
10
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

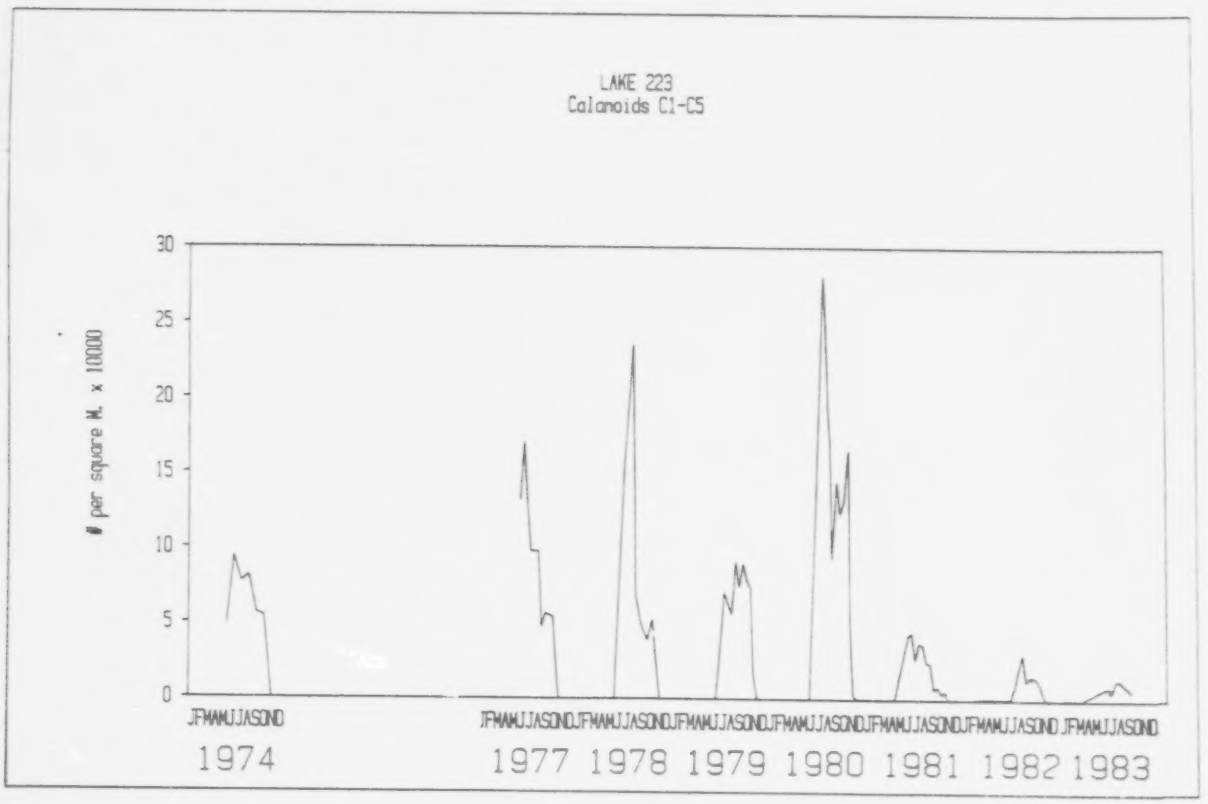

LAKE 223
Calanoids C1
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

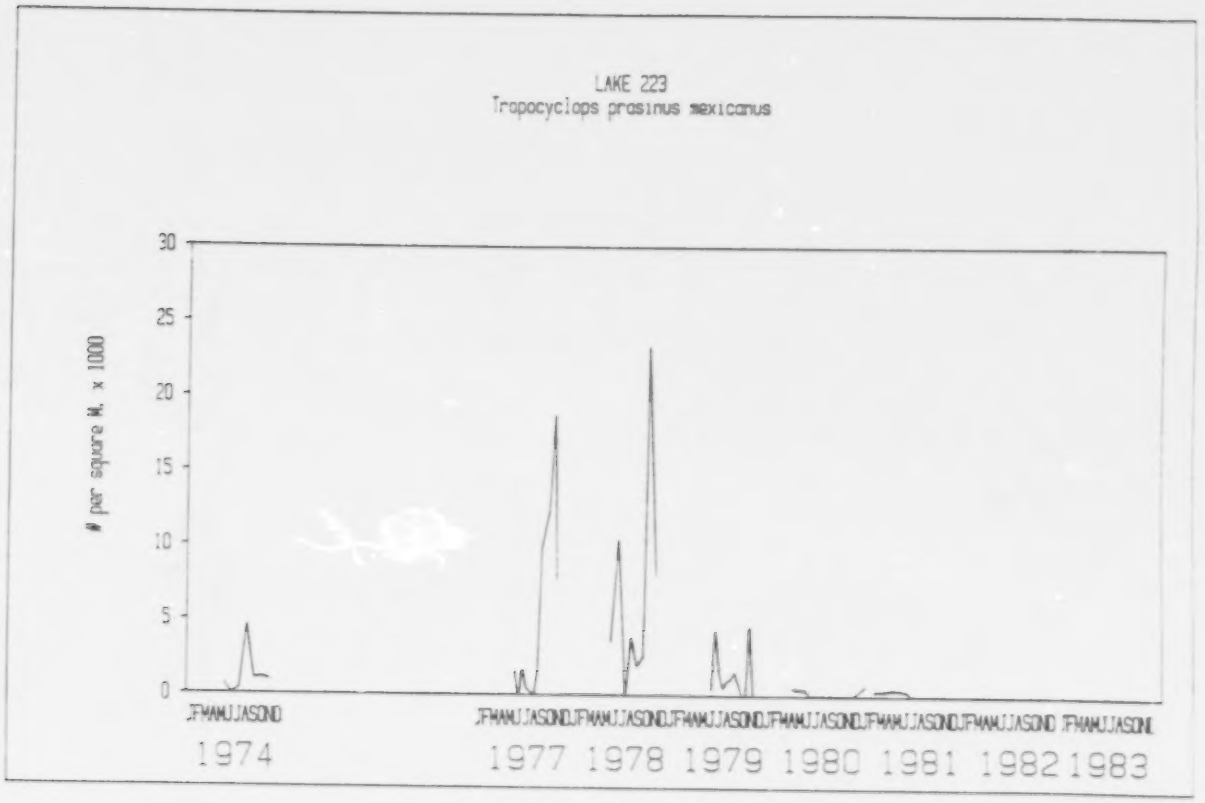

LAKE 223
Calanoids C2
per square M. x 10000
10
8
6
4
2
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

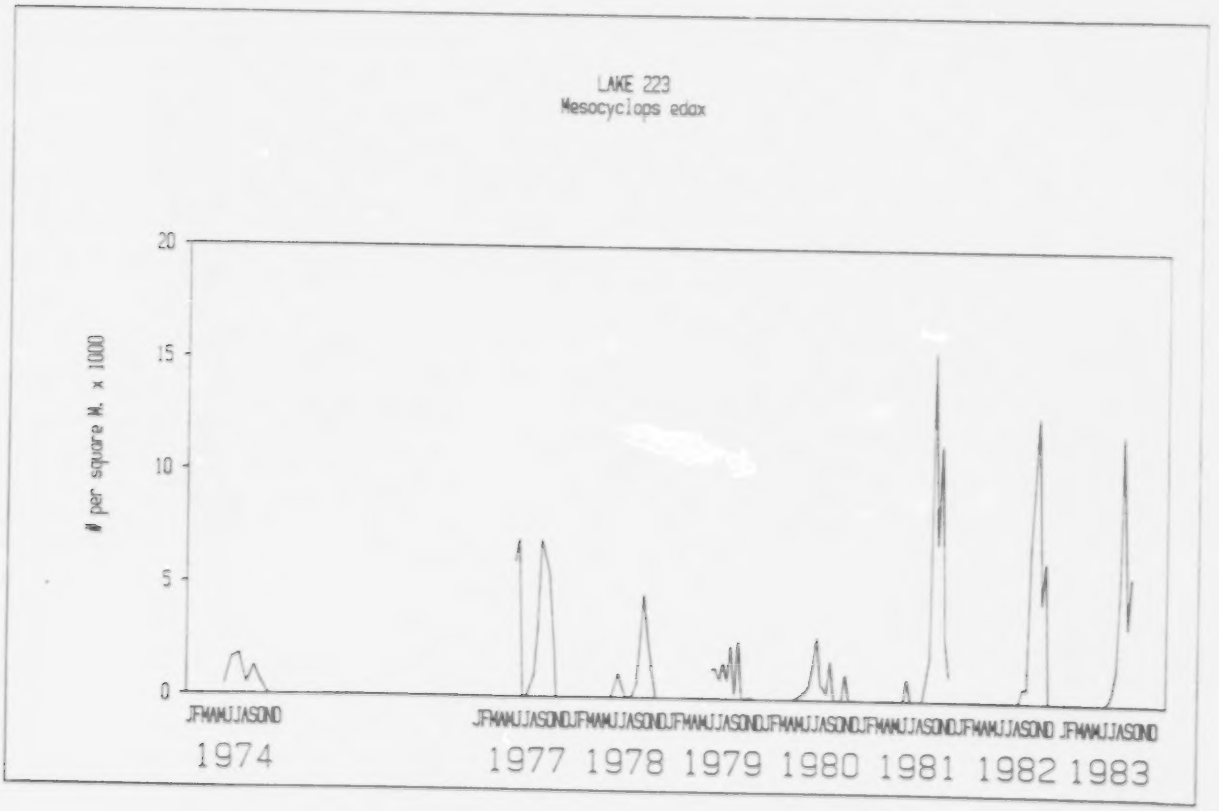

LAKE 223
Calanoids C3
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

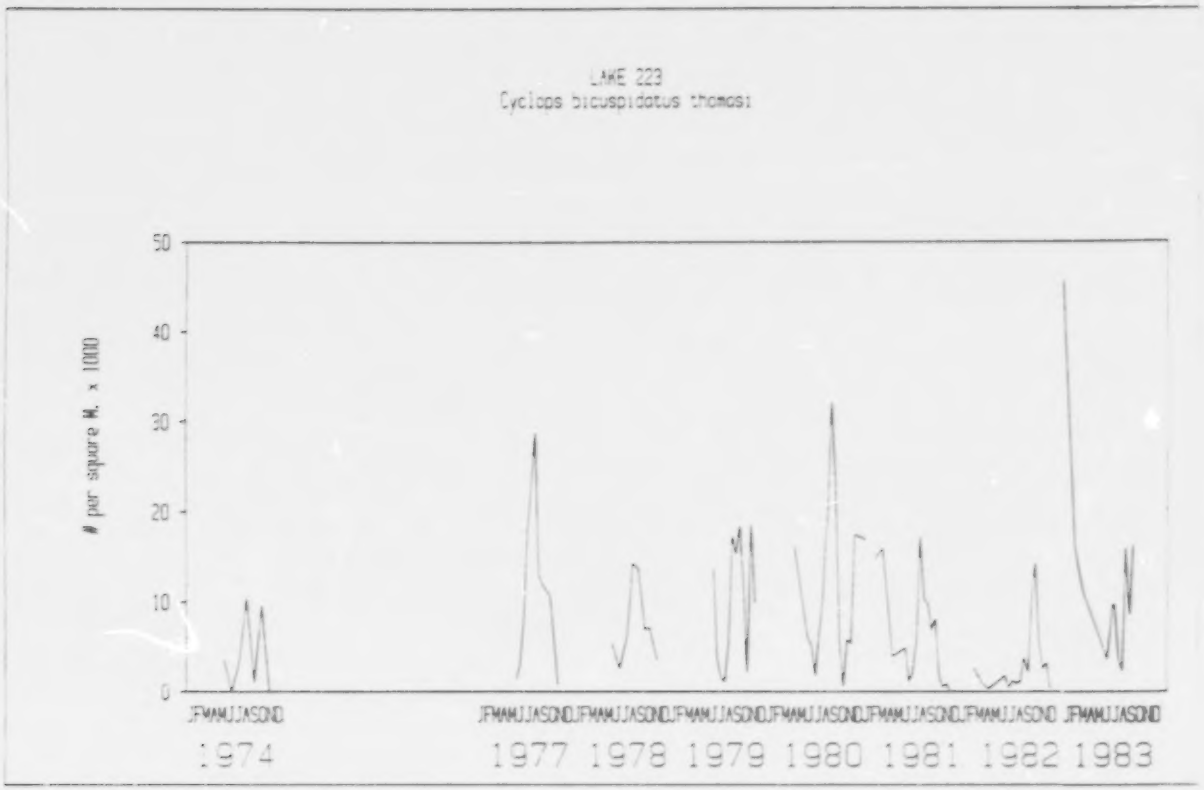

LAKE 223
Calanoids C4
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

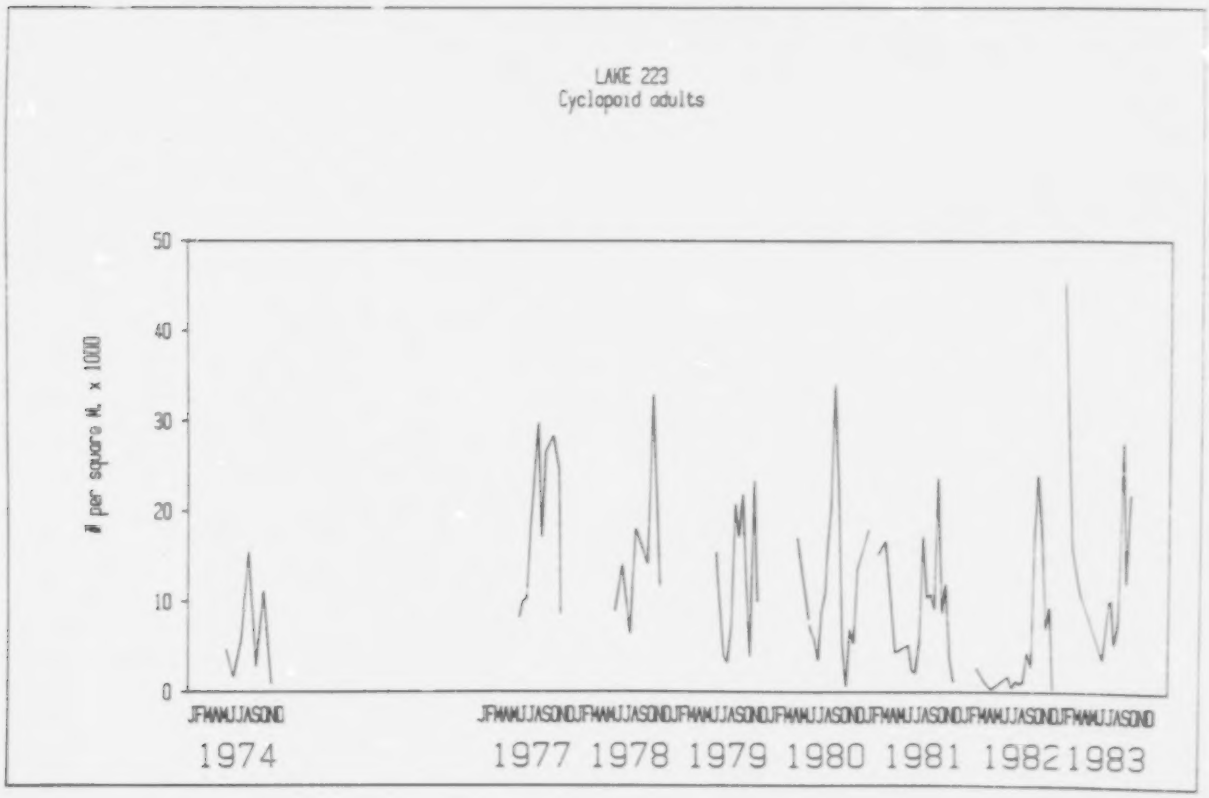

LAKE 223
Calanoids C5
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

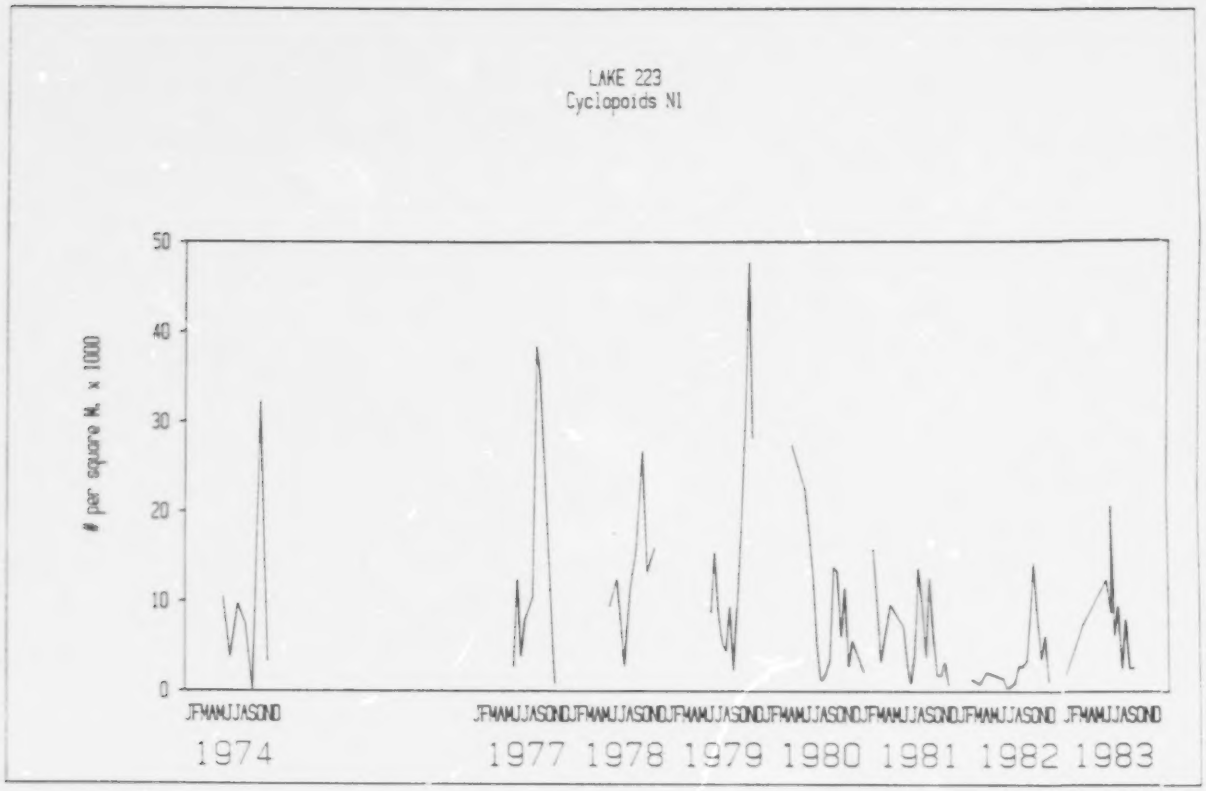

LAKE 223
Calanoids C1-C5
per square M. x 10000
30
25
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

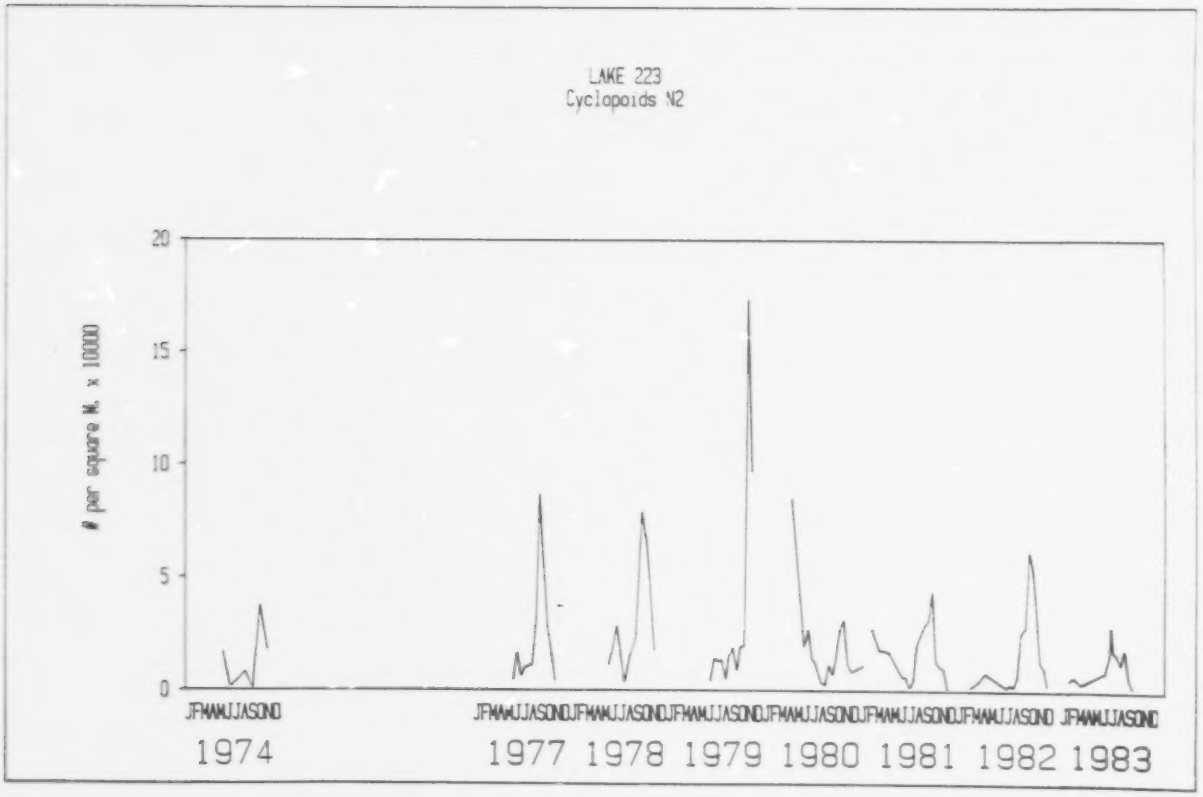

LAKE 223
Tropocyclops prasinus mexicanus
per square M. x 1000
30
25
20
15
10
5
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

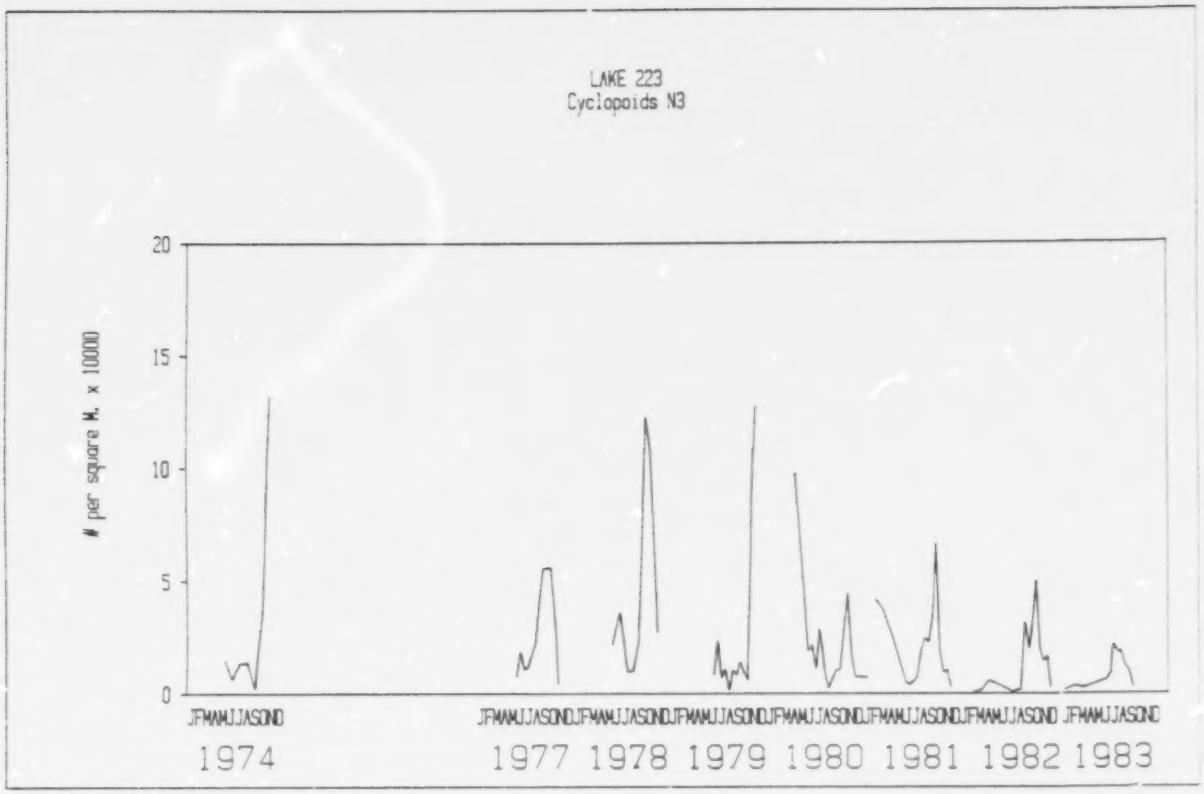

LAKE 223
Mesocyclops edax
per square M. x 1000
20
15
10
5
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

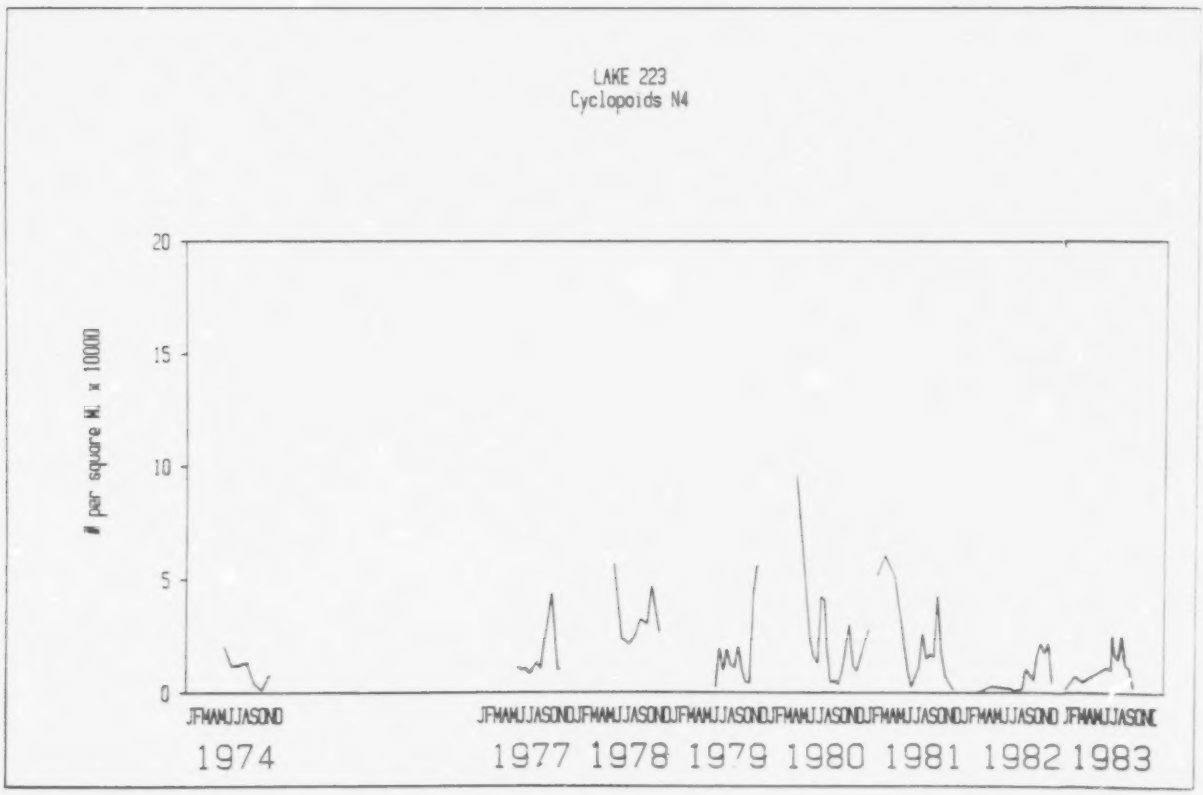

LAKE 223
Cyclops bicuspidatus thomasi
per square M. x 1000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

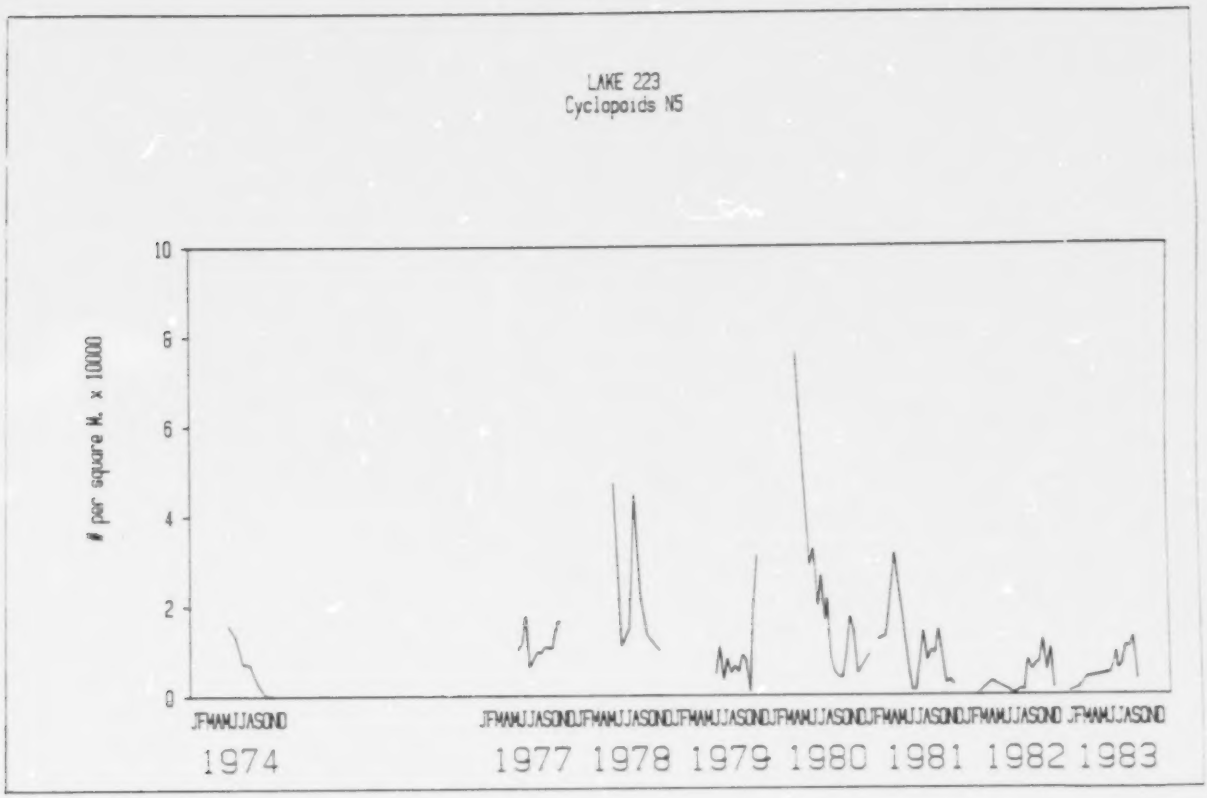

LAKE 223
Cyclopoid adults
per square M. x 1000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

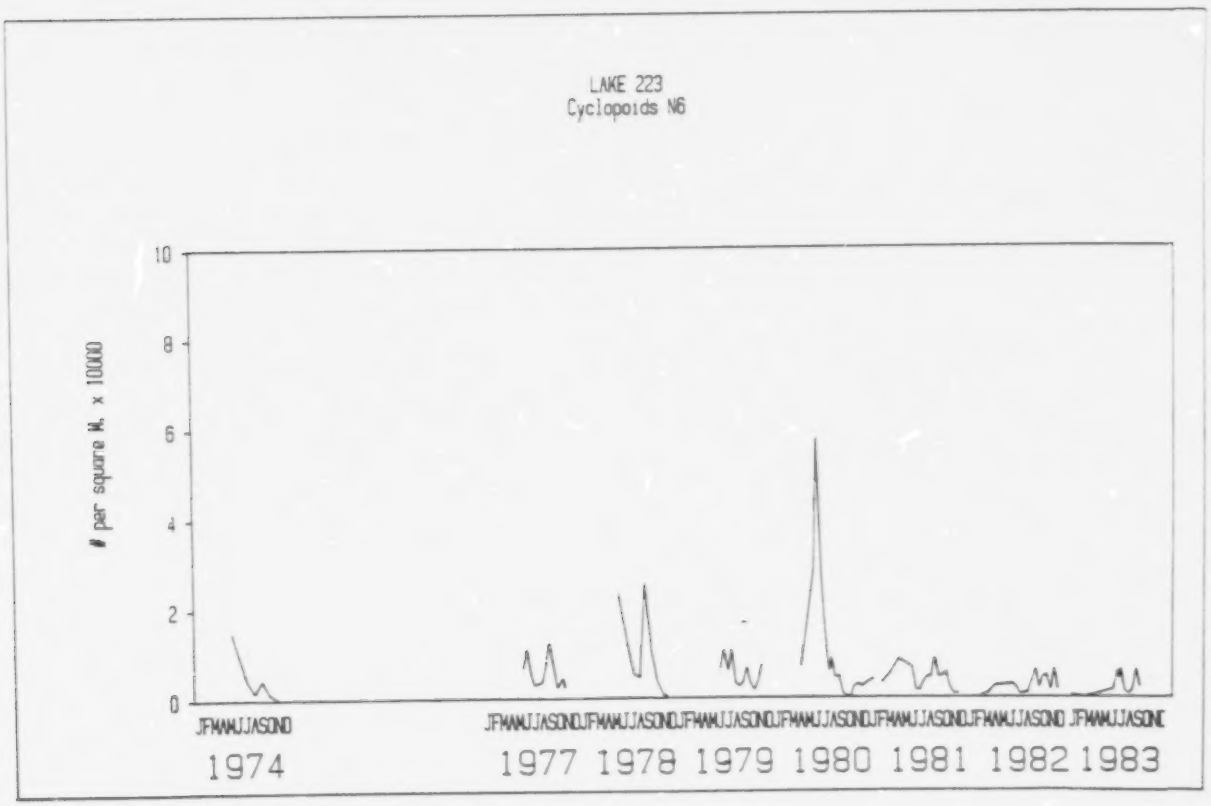

LAKE 223
Cyclopoids N1
per square M. x 10000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

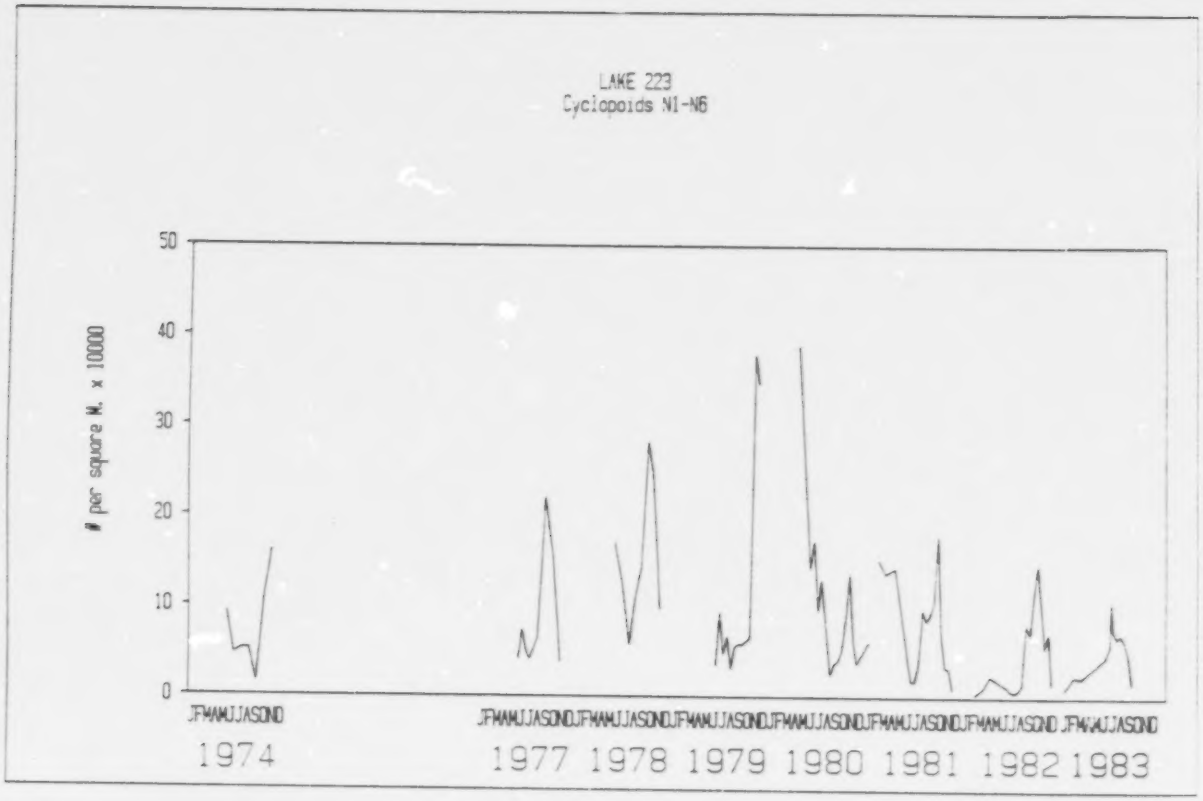

LAKE 223
Cyclopoids N2
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

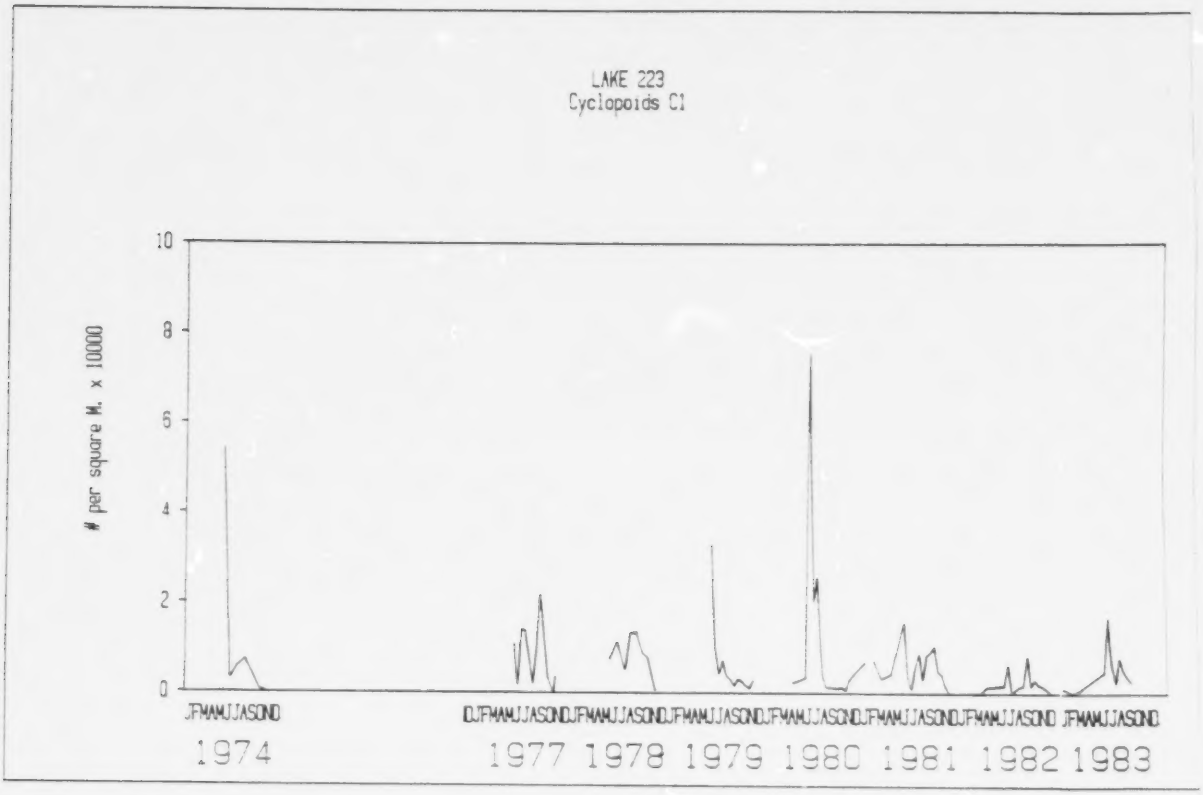

LAKE 223
Cyclopoids N3
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

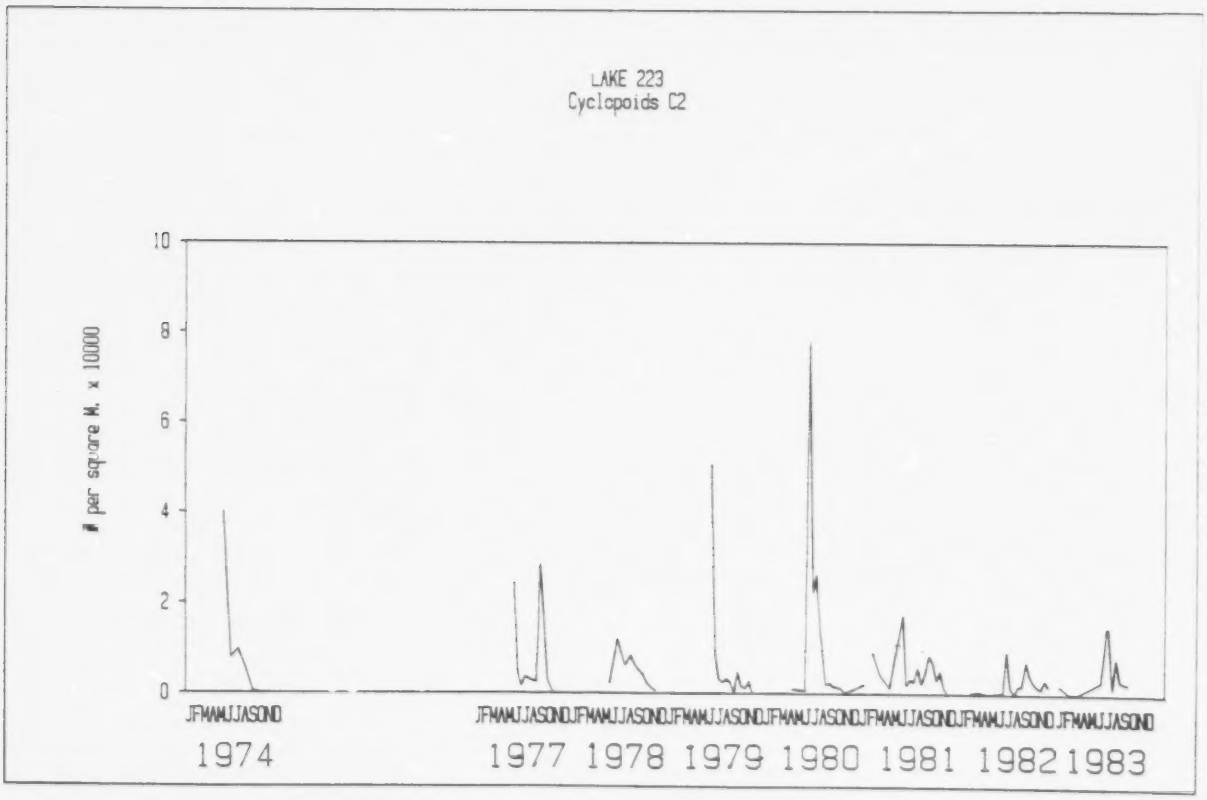

LAKE 223
Cyclopoids N4
per square M. x 10000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

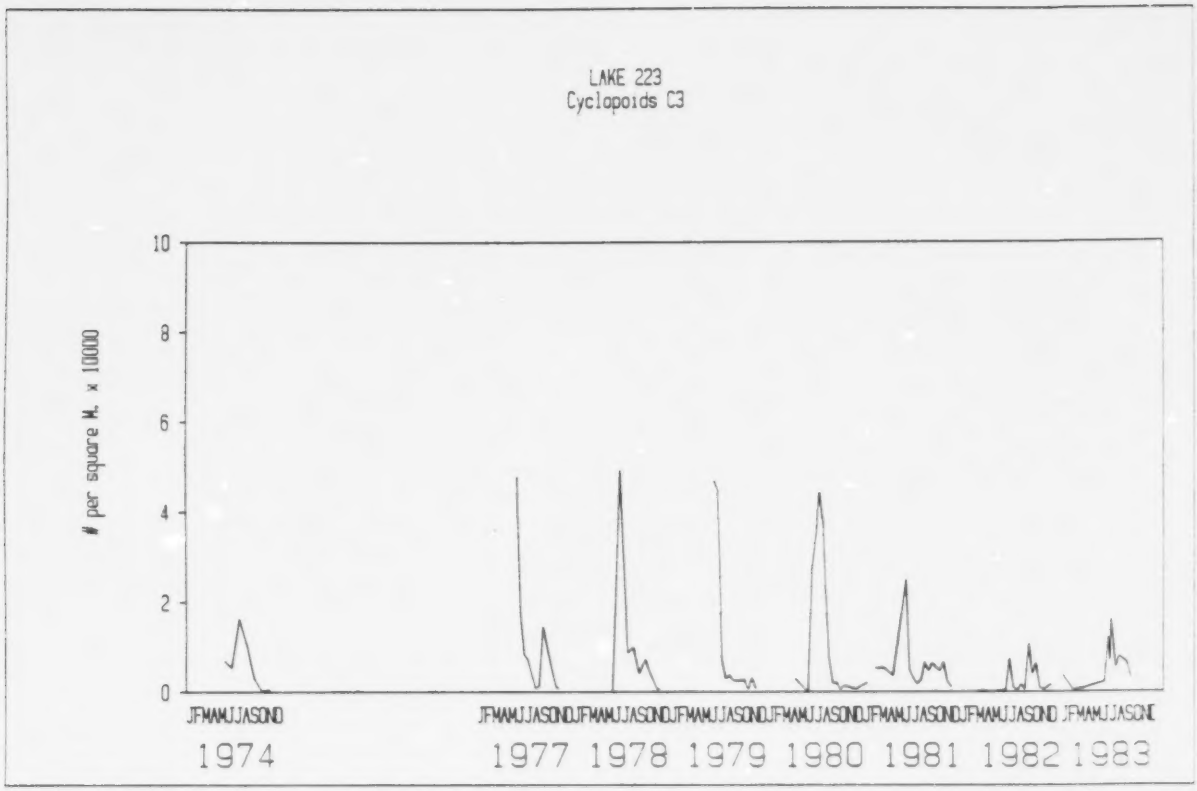

LAKE 223
Cyclopoids N5
per square M. x 10000
10
8
6
4
2
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

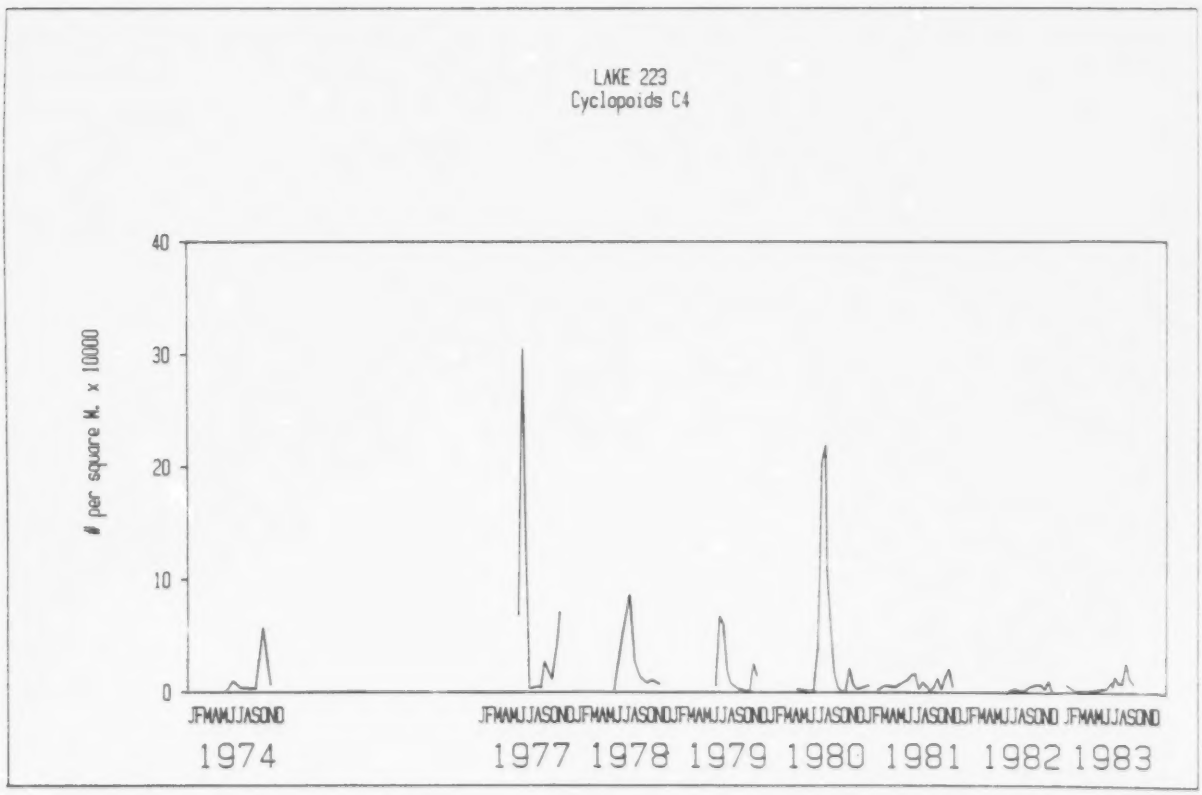

LAKE 223
Cyclopoids N6
per square M. x 10000
10
8
6
4
2
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983


LAKE 223
Cyclopoids N1-N6
per square M. x 10000
50
40
30
20
10
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

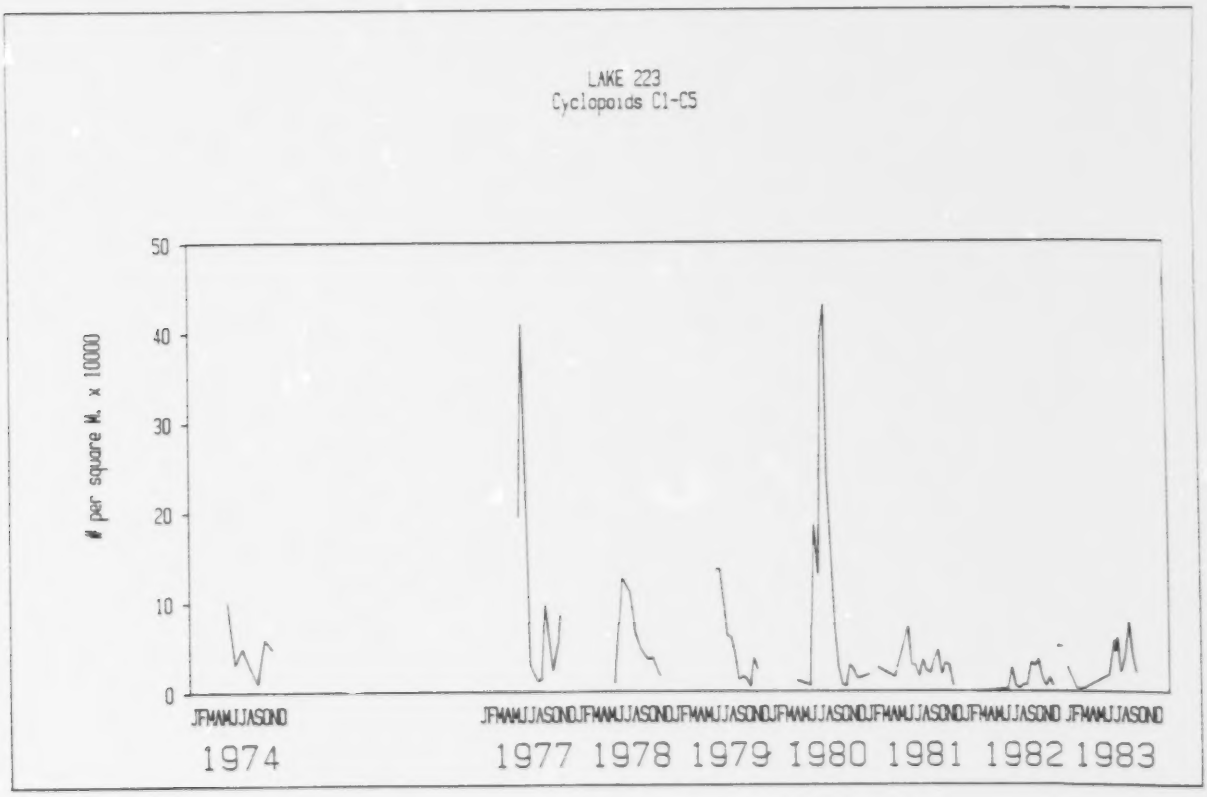

LAKE 223
Cyclopoids C1
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

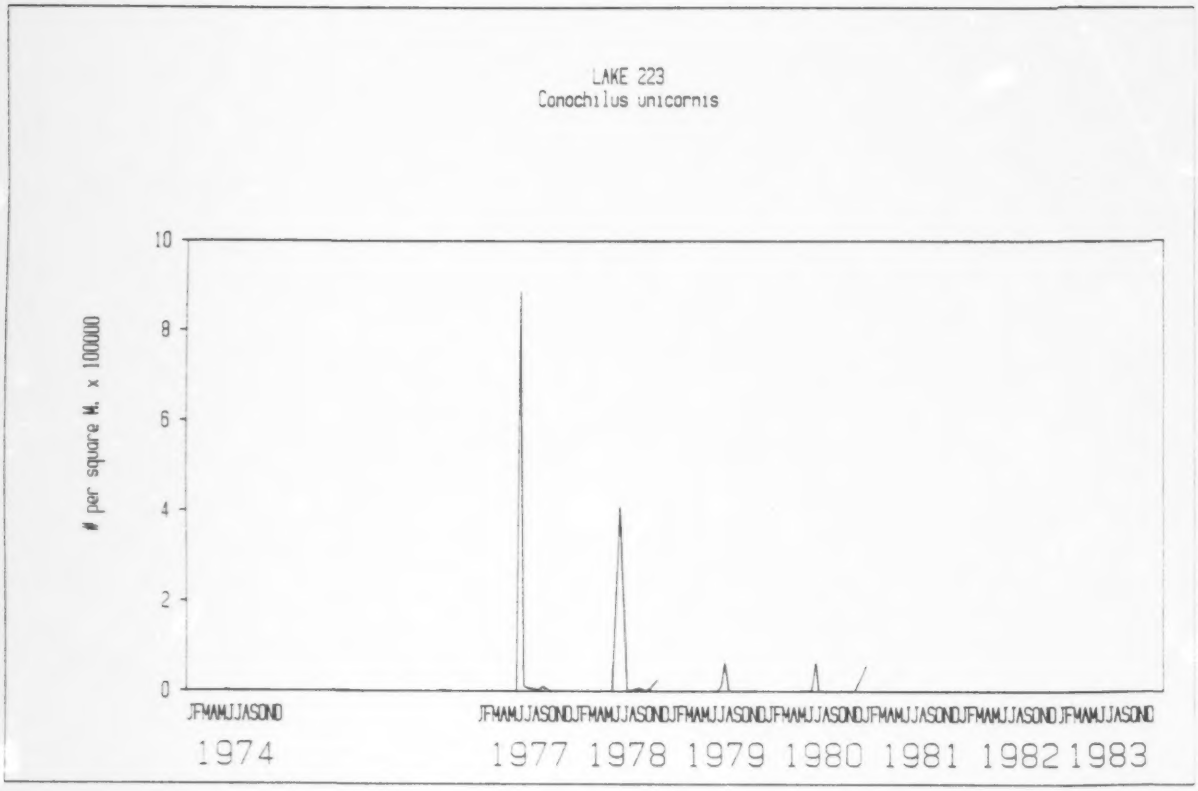

LAKE 223
Cyclopoids C2
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

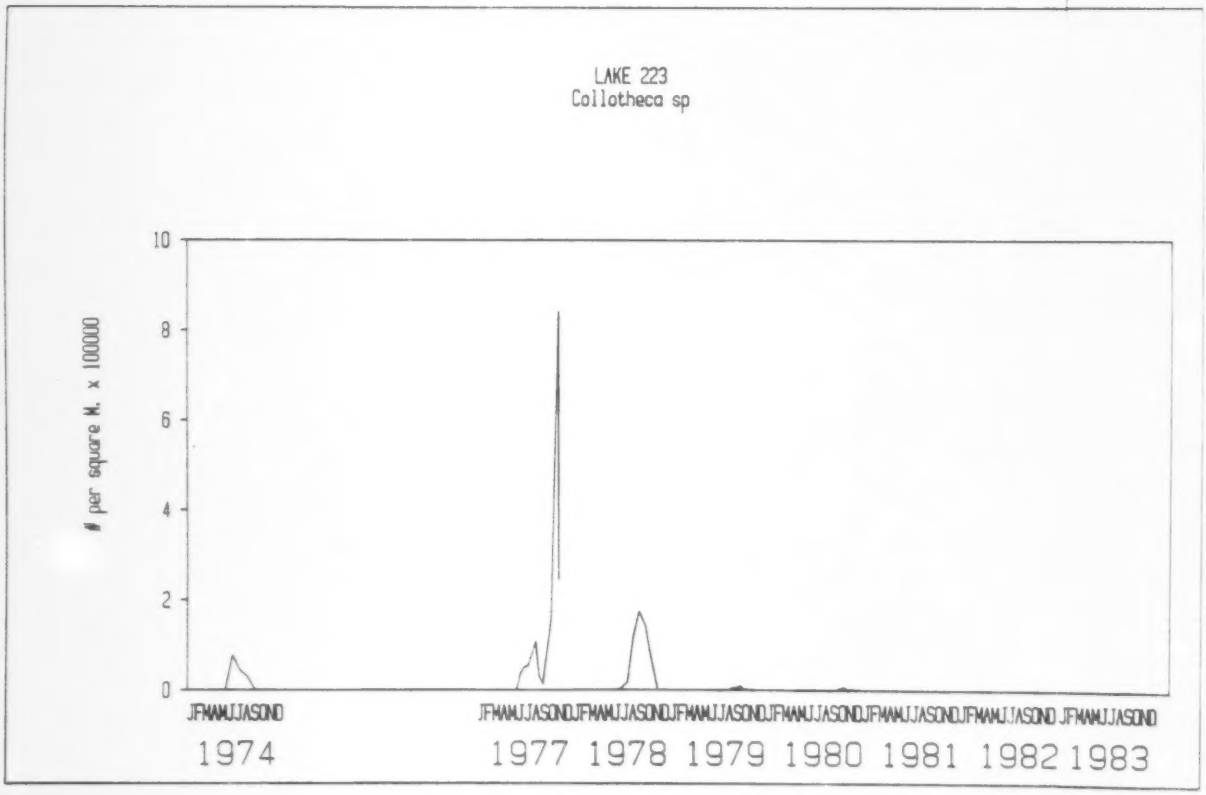

LAKE 223
Cyclopoids C3
per square M. x 10000
0
2
4
6
8
10
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

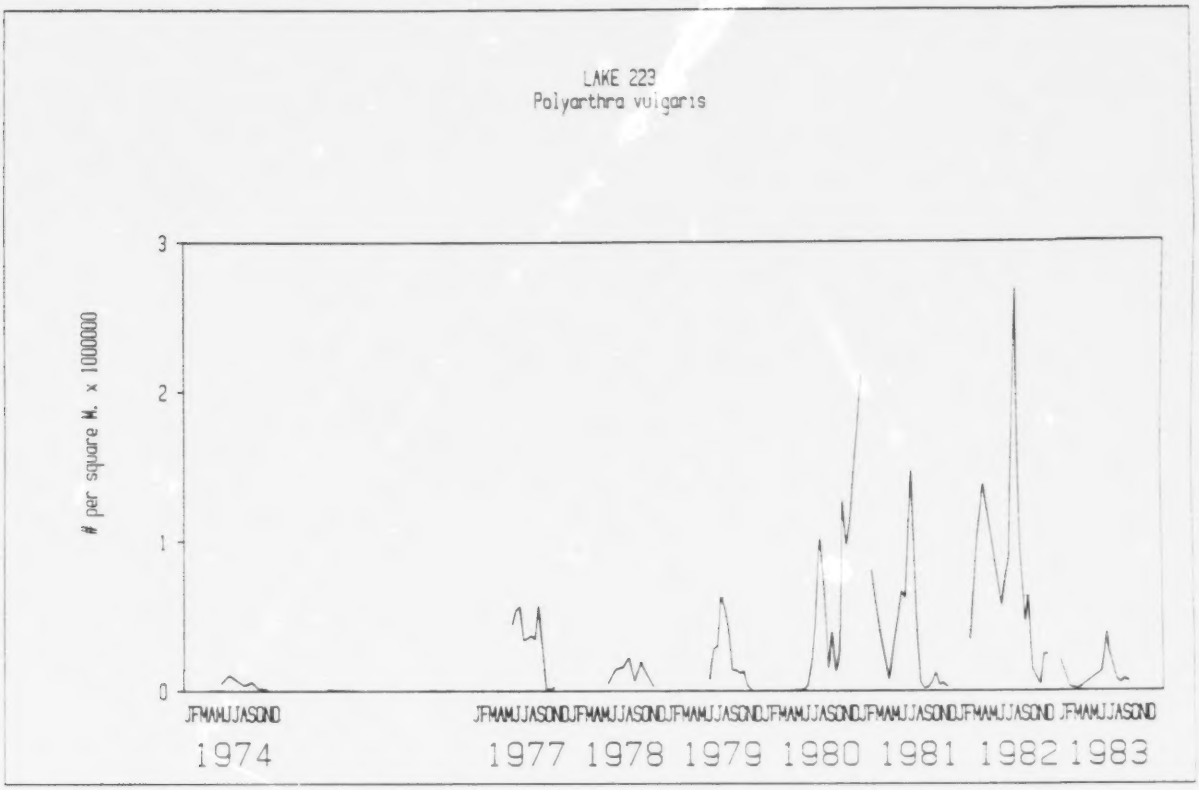

LAKE 223
Cyclopoids C4
per square M. x 10000
0
10
20
30
40
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

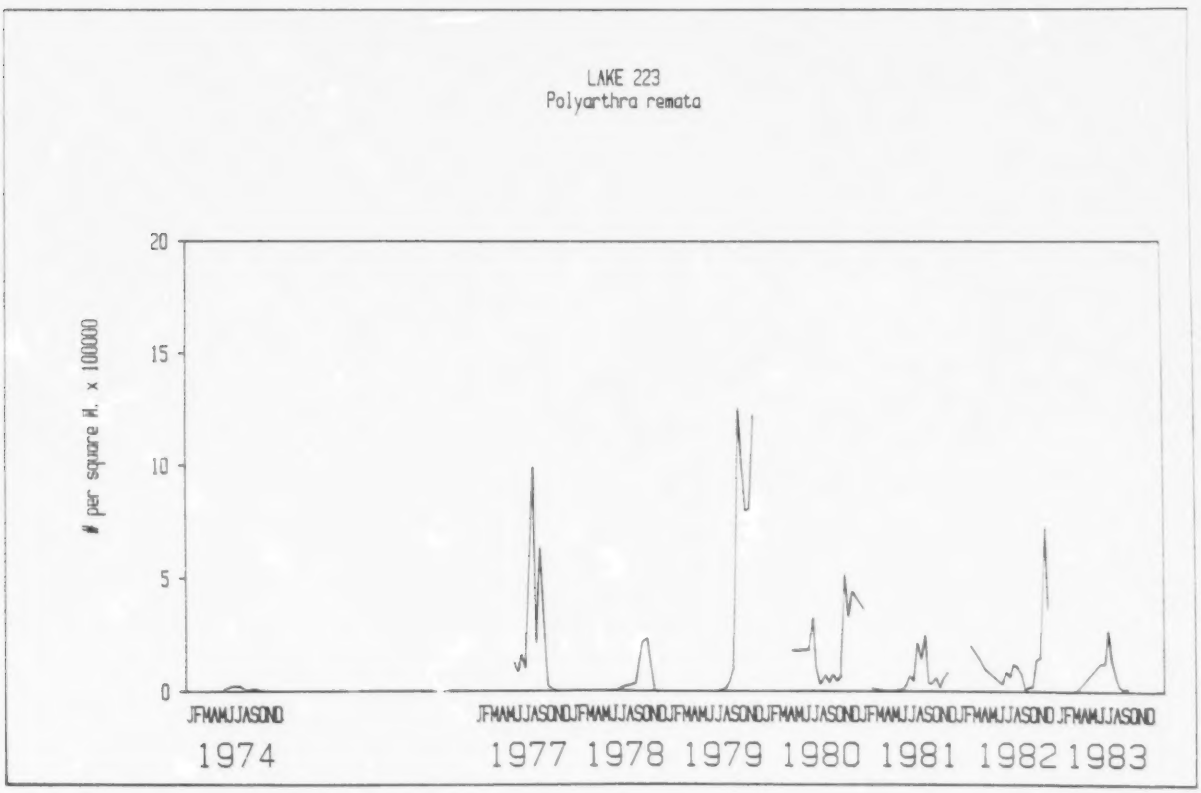
LAKE 223
Cyclopoids C5
per square M. x 10000
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

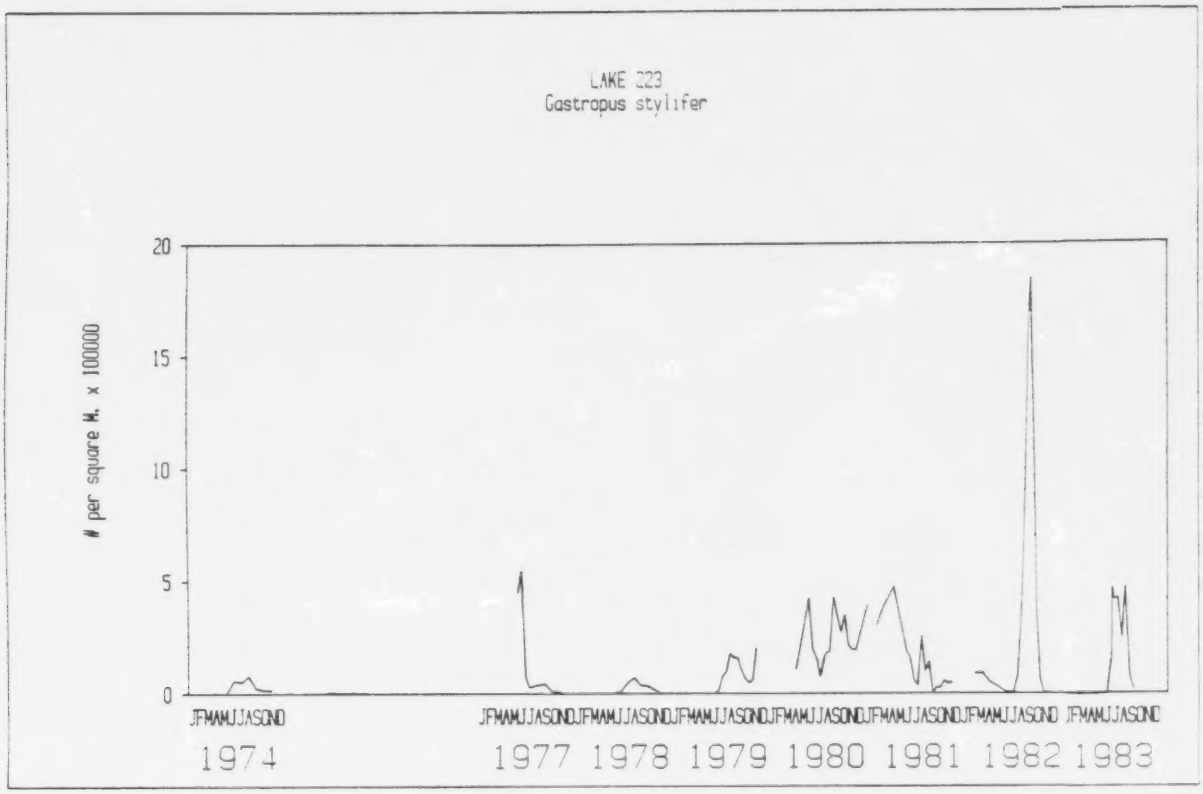

LAKE 223
Cyclopoids C1-C5
per square M. x 10000
50
40
30
20
10
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

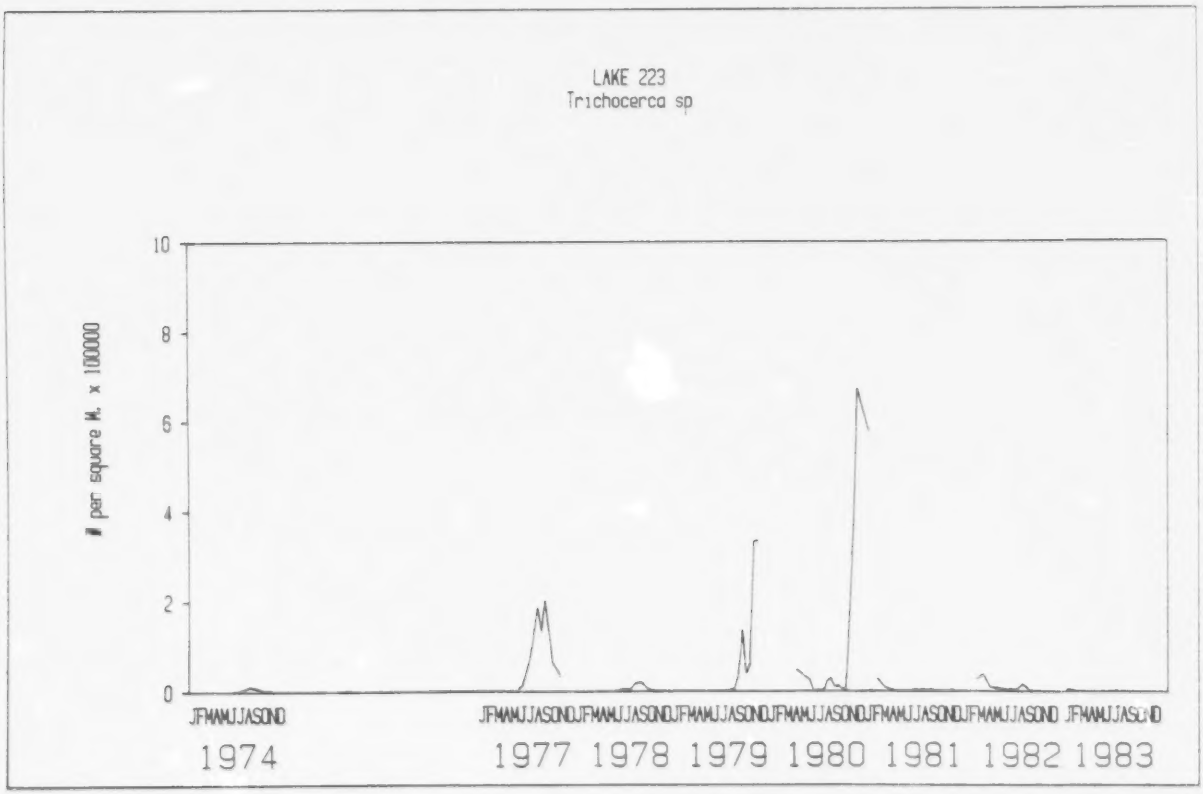

LAKE 223
Conochilus unicornis
per square M. x 100000
10
8
6
4
2
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

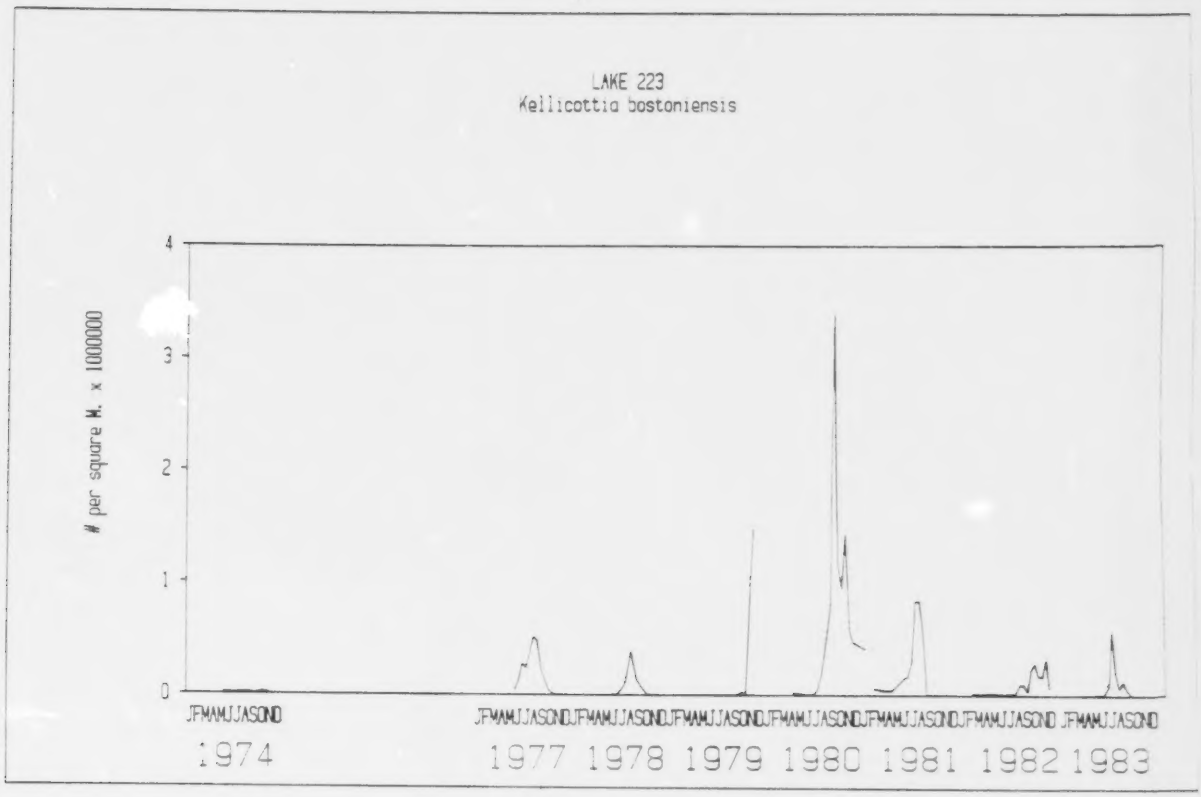

LAKE 223
Collotheca sp
per square M. x 100000
10
8
6
4
2
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

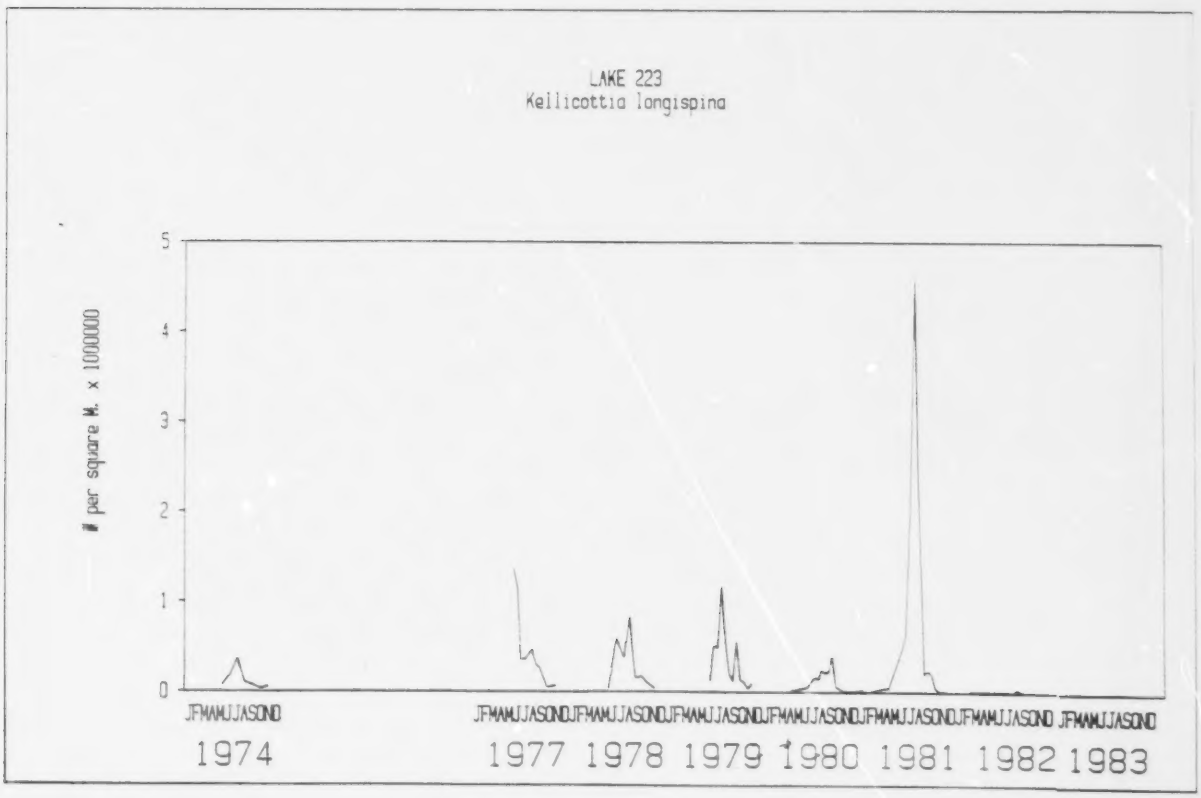

LAKE 223
Polyarthra vulgaris
per square M. x 10000000
3
2
1
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

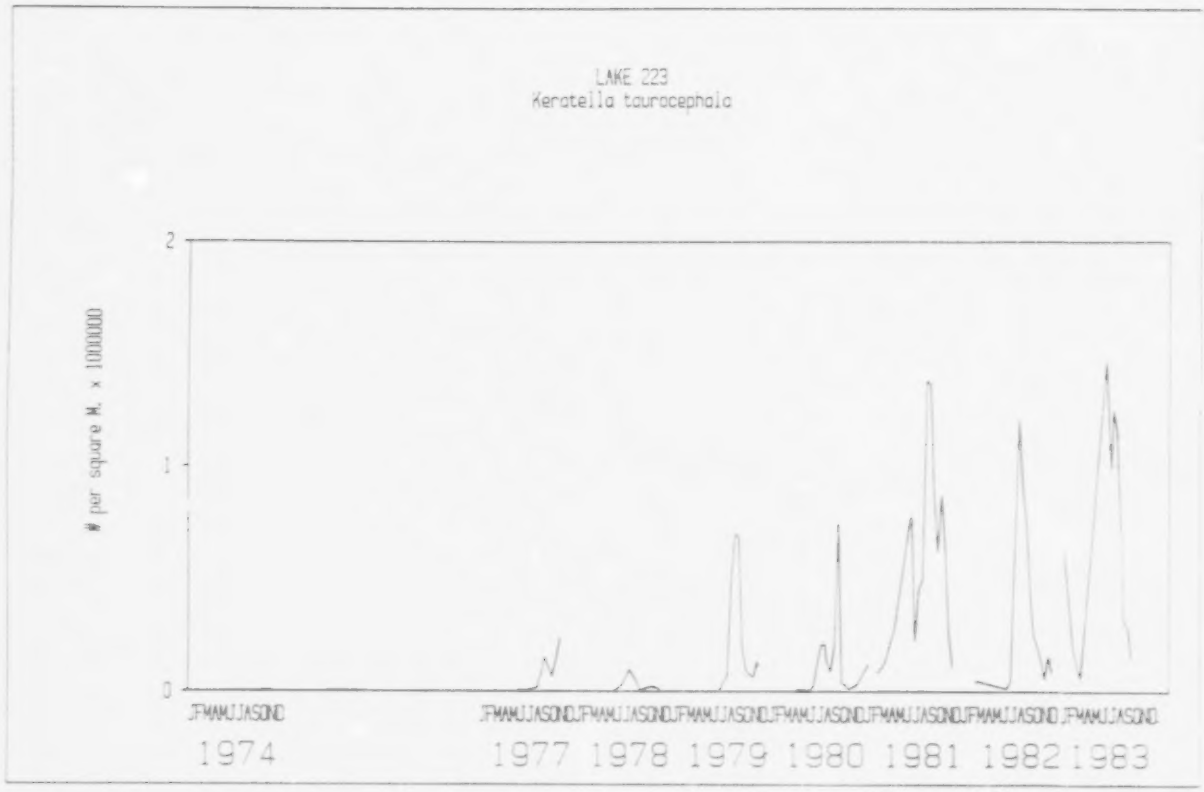

LAKE 223
Polyarthra remata
per square M. x 100000
20
15
10
5
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

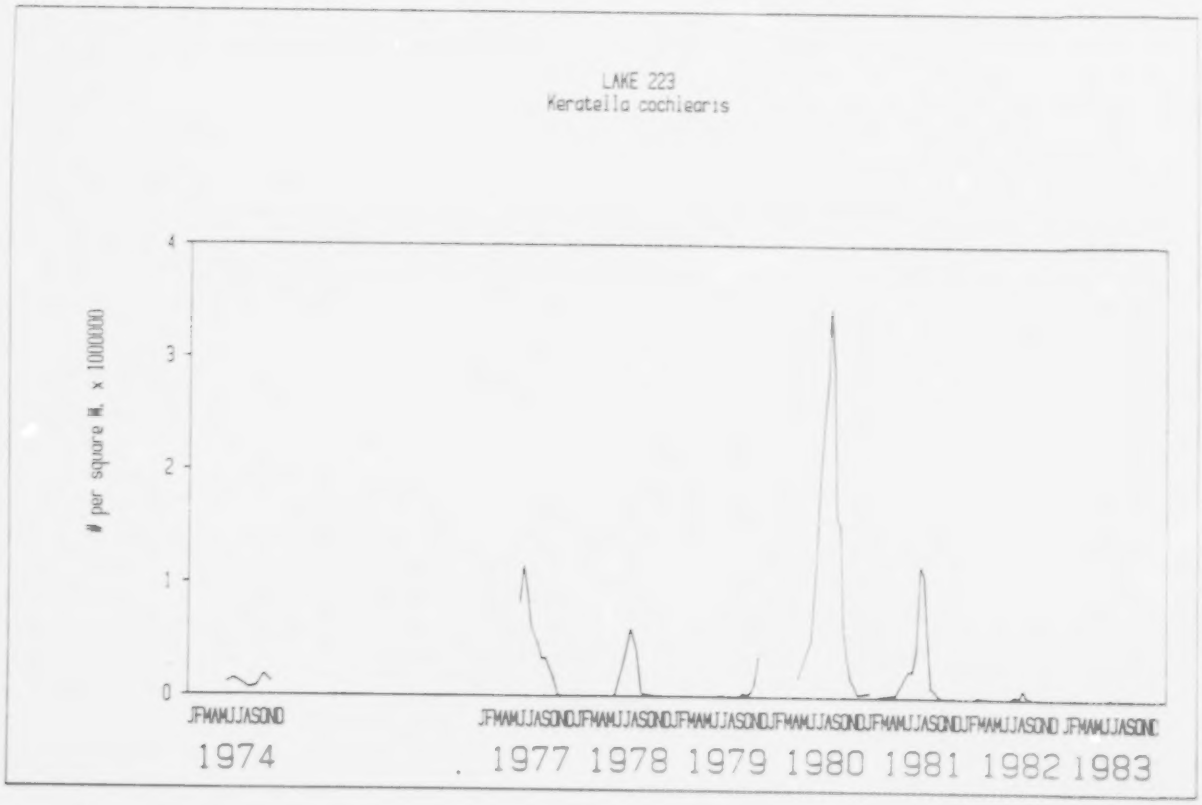

LAKE 223
Gastropus stylifer
per square M. x 100000
20
15
10
5
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983


LAKE 223
Trichocerca sp
per square M. x 100000
10
8
6
4
2
0
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983


LAKE 223
Kellicottia bostoniensis
per square M. x 1000000
0
1
2
3
4
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

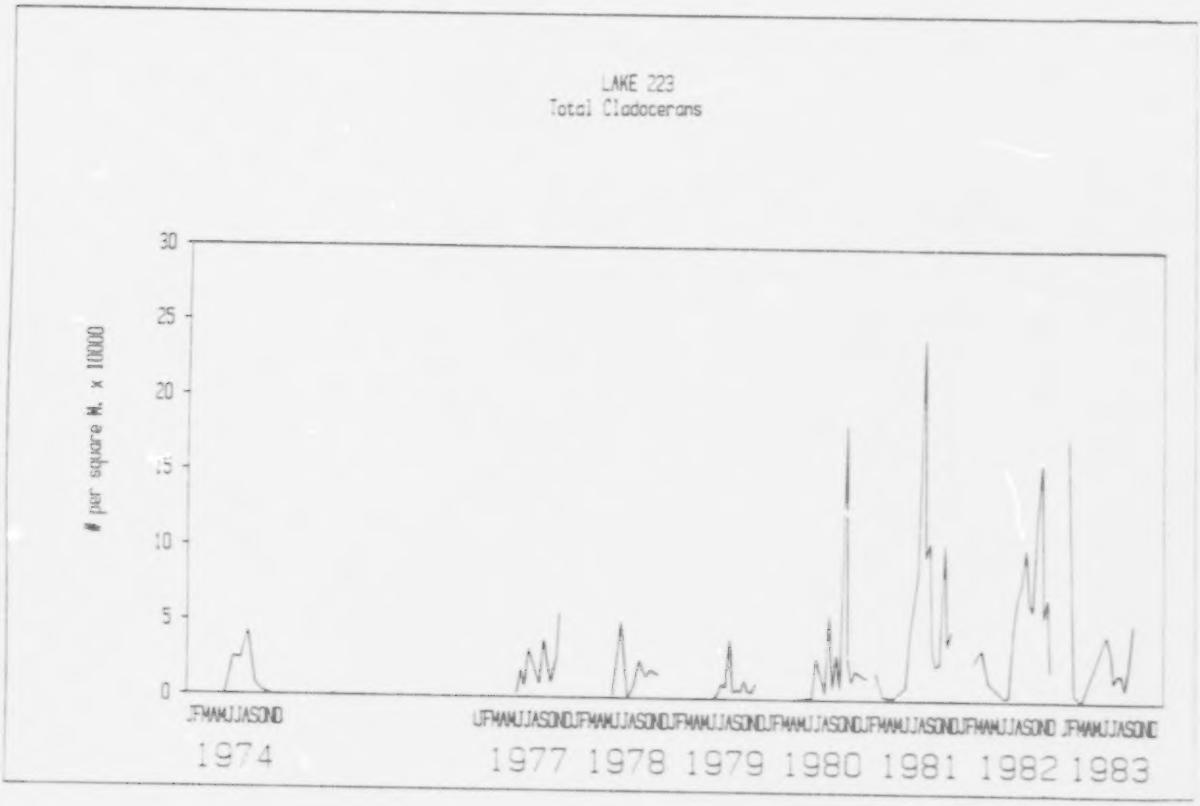

LAKE 223
Kellicottia longispina
per square M. x 1000000
0
1
2
3
4
5
JFMAMJJASOND
1974
1977 1978 1979 1980 1981 1982 1983

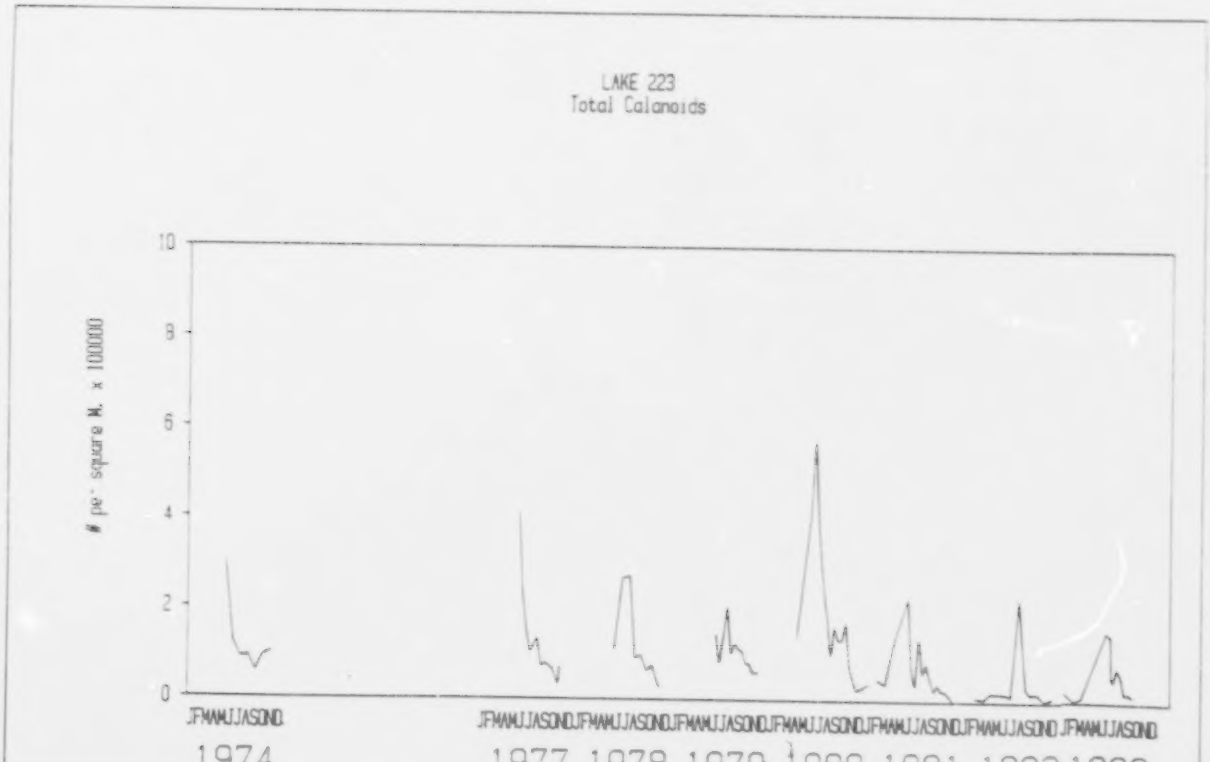

LAKE 223
Keratella tauracephala
per square M. x 1000000
2
1
0
JFMAMJJASOND
1974
JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

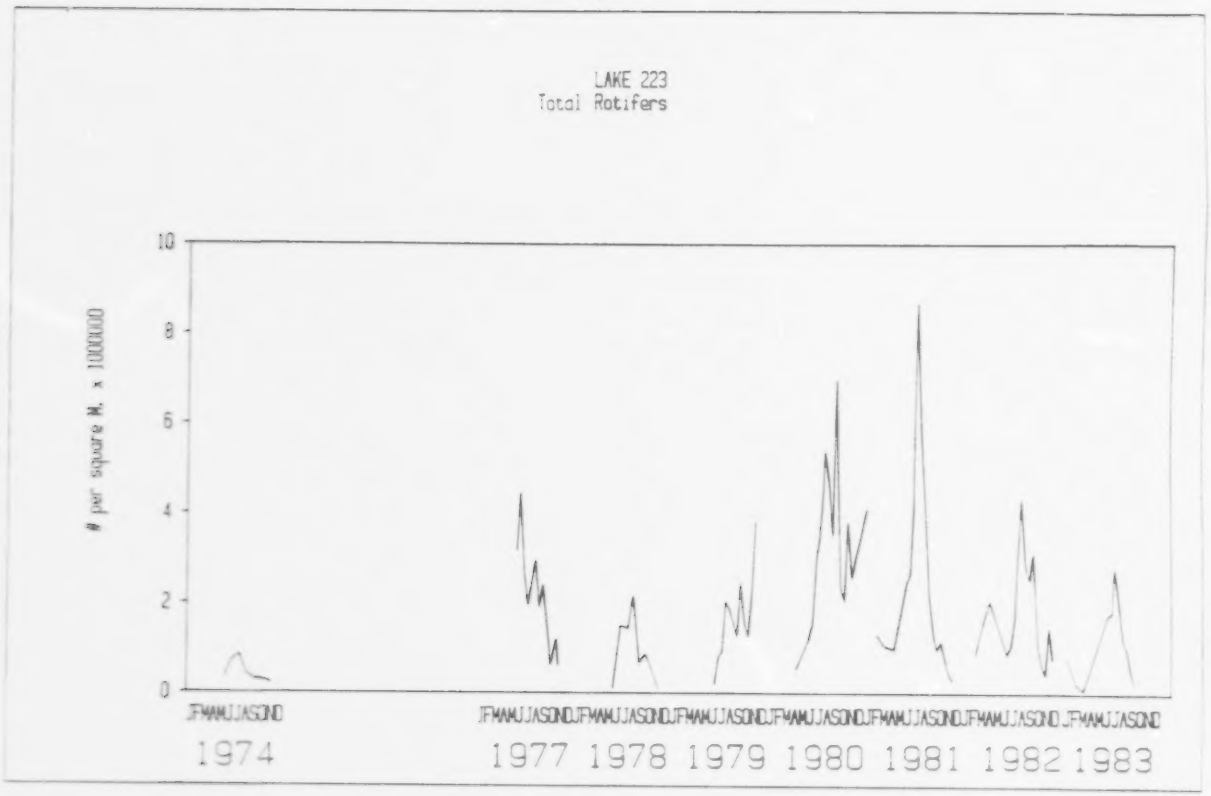

LAKE 223
Keratella cochlearis
per square M. x 1000000
4
3
2
1
0
JFMAMJJASOND
1974
JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

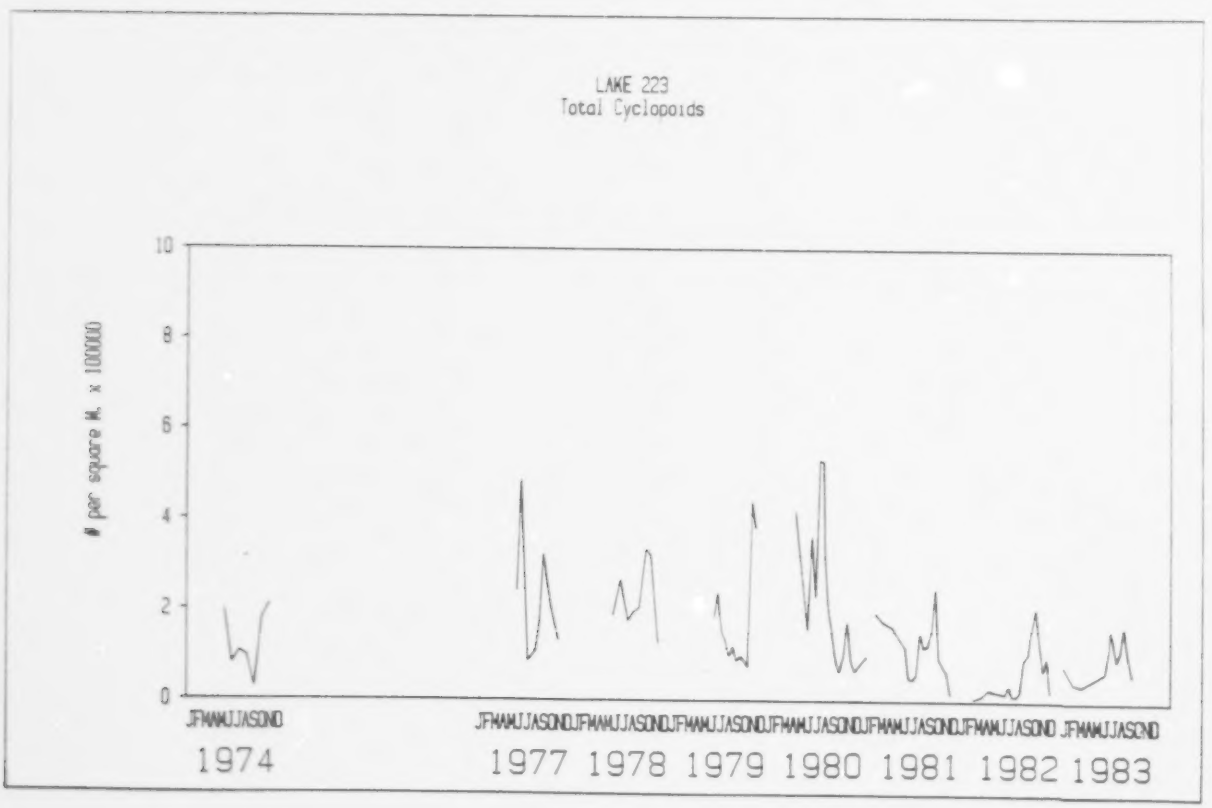
Appendix 5

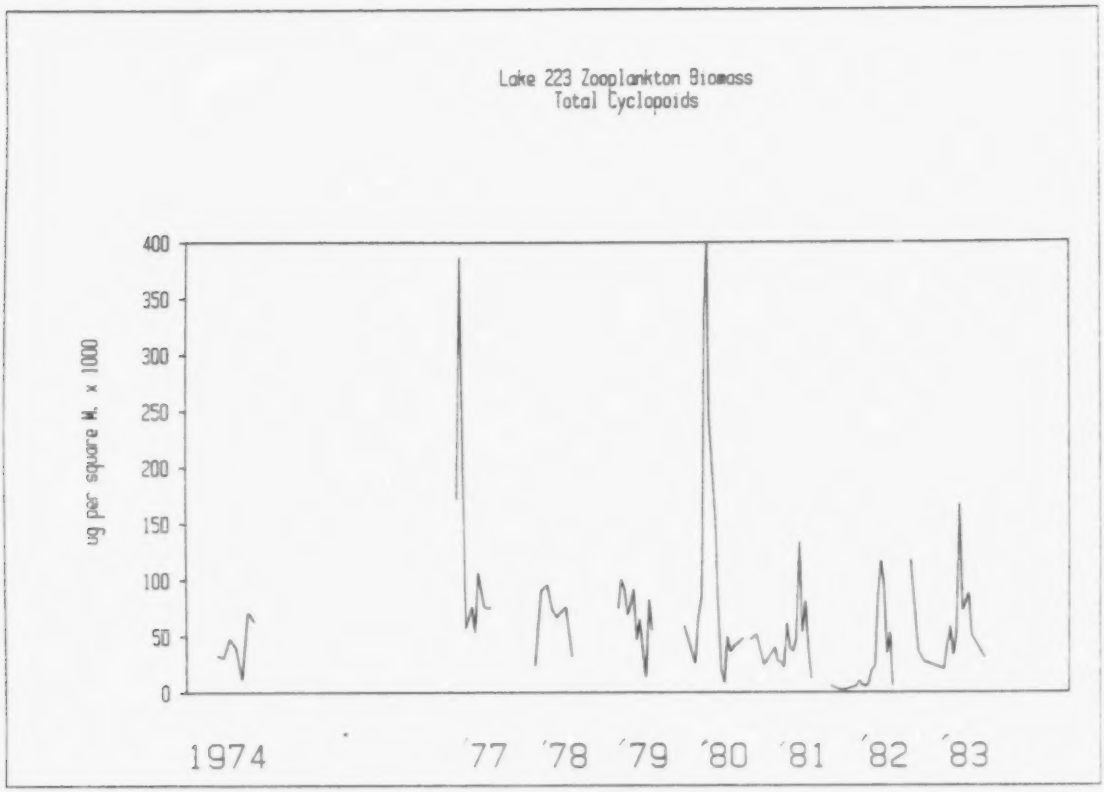
Figures showing abundances (numbers per square metre) and biomass (µg per square metre) of major zooplankton groups at the routine sampling station for the years 1974, 1977-1983. Because only the top 2 m of the water column were sampled during 1975-1976, data from this period are excluded.

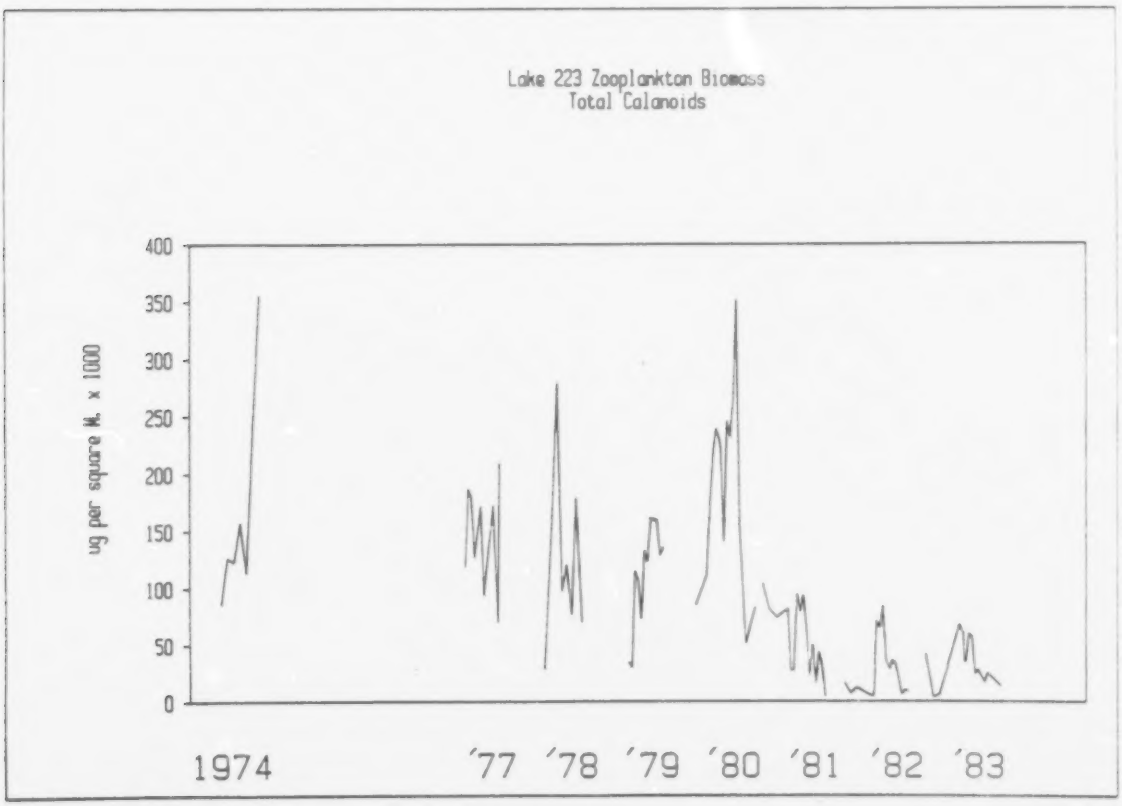

LAKE 223
Total Cladocerans
per square M. x 10000
0
5
10
15
20
25
30
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

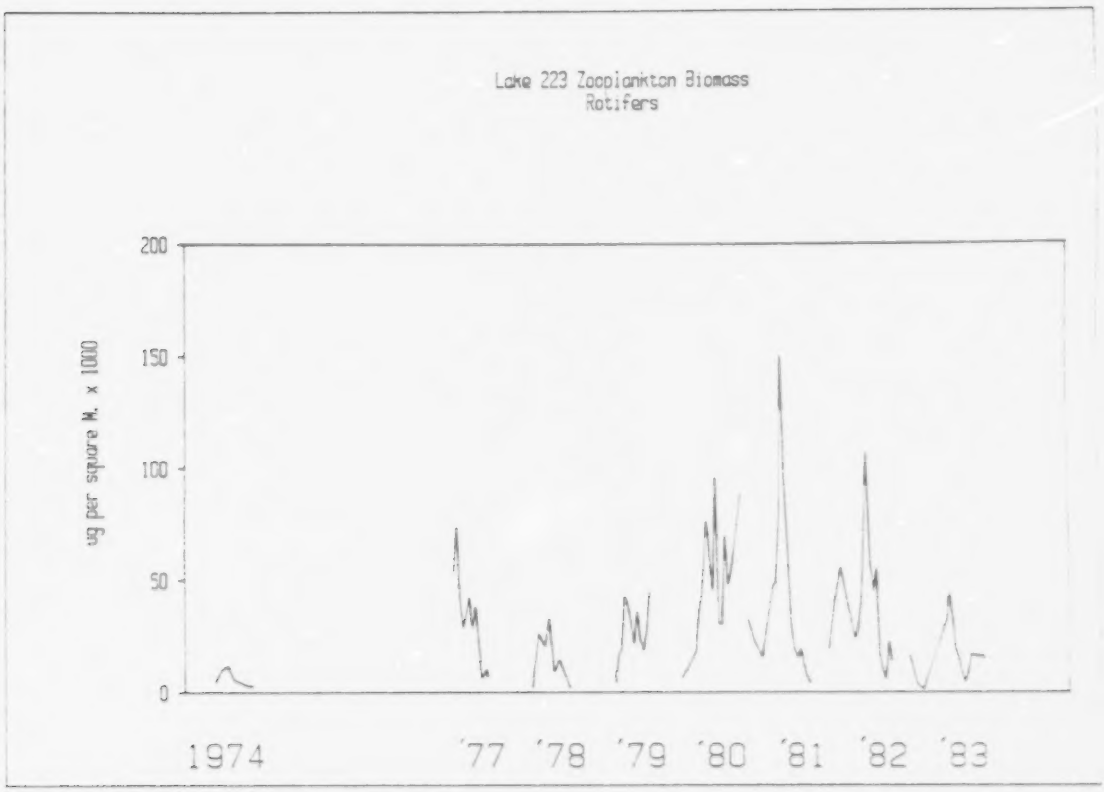

LAKE 223
Total Calanoids
per square M. x 100000
0
2
4
6
8
10
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

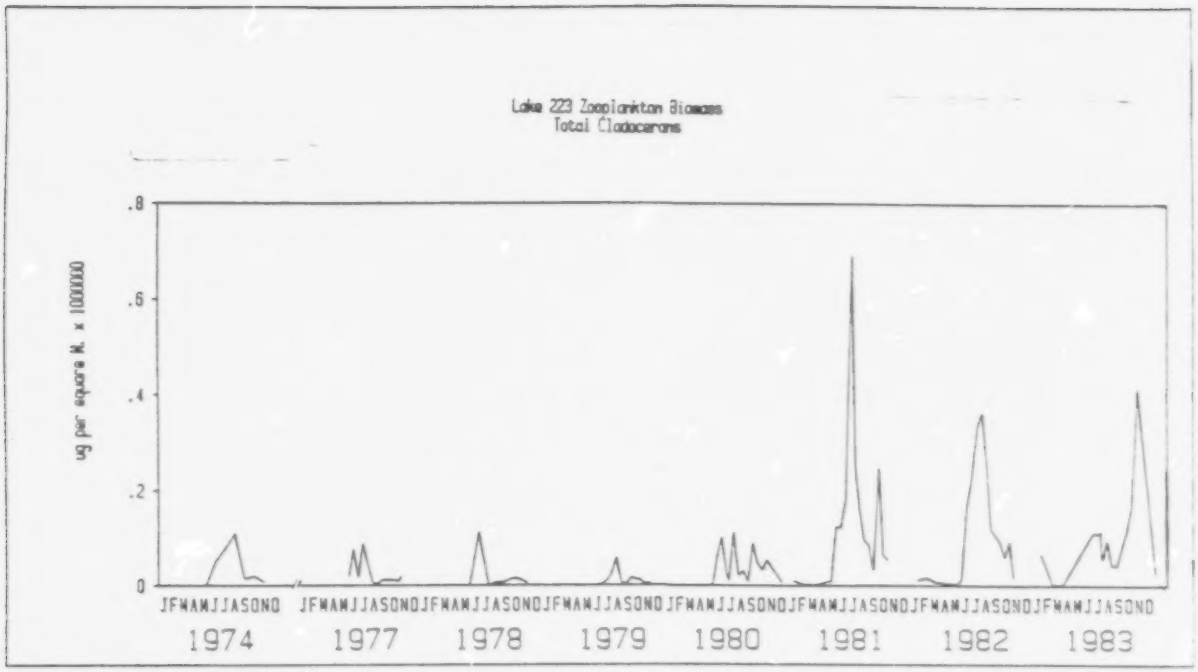

LAKE 223
Total Rotifers
per square M. x 1000000
10
8
6
4
2
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983

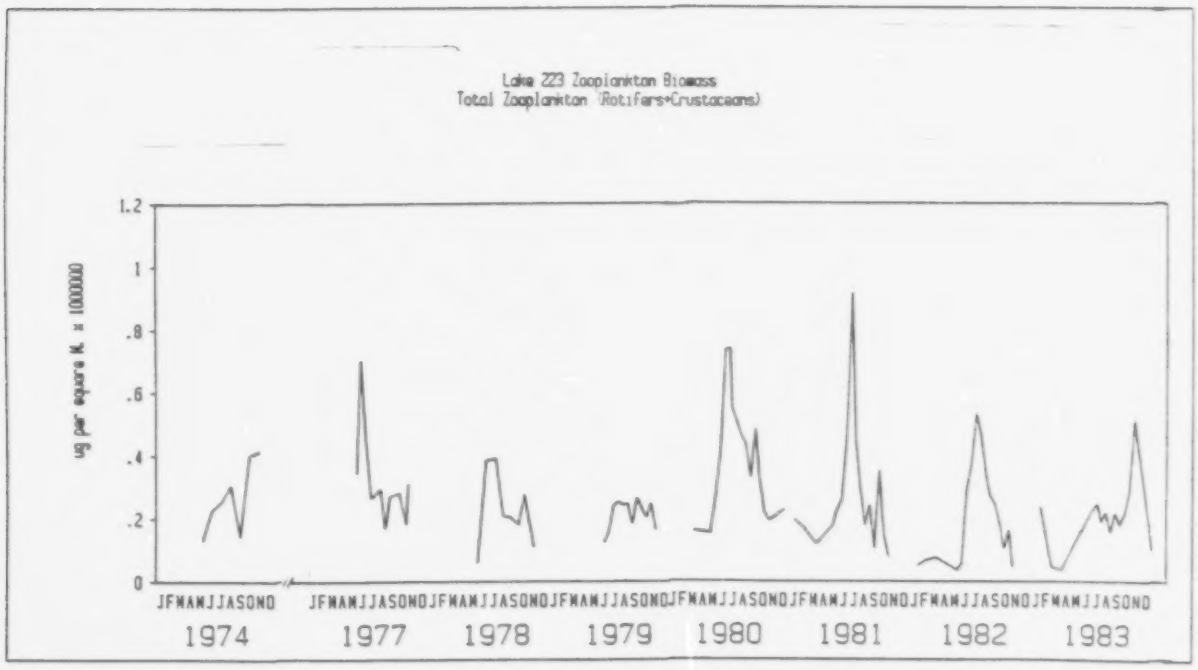

LAKE 223
Total Cyclopoids
per square M. x 100000
10
8
6
4
2
0
JFMAMJJASOND
1974
JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND JFMAMJJASOND
1977 1978 1979 1980 1981 1982 1983


Lake 223 Zooplankton Biomass
Total Cyclopoids
ug per square M. x 1000
400
350
300
250
200
150
100
50
0
1974
'77
'78
'79
'80
'81
'82
'83


Lake 223 Zooplankton Biomass
Total Calanoids
ug per square M. x 1000
400
350
300
250
200
150
100
50
0
1974
'77
'78
'79
'80
'81
'82
'83


Lake 223 Zooplankton Biomass
Rotifers
ug per square M. x 1000
200
150
100
50
0
1974
'77
'78
'79
'80
'81
'82
'83


Lake 223 Zooplankton Biomass
Total Cladocerans
ug per square M. x 1000000
.8
.6
.4
.2
0
JFMAMJJASOND JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1974 1977 1978 1979 1980 1981 1982 1983


Lake 223 Zooplankton Biomass
Total Zooplankton (Rotifers+Crustaceans)
ug per square M. x 1000000
1.2
1
.8
.6
.4
.2
0
JFMAMJJASOND JFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASONDJFMAMJJASOND
1974 1977 1978 1979 1980 1981 1982 1983

Appendix 6

Percent composition and lake volume-weighted monthly mean biomass (µg per square metre) for each individual zooplankton species including life stages of copepods in Lake 223 taken from the routine sampling station during ice-free periods 1974, 1977-1983; and mean abundance (numbers per square metre) from 1980 to 1983. Because only the top 2 m of the water column were sampled during 1975-1967, data from this period are excluded.

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 22, 1974 To November 6 , 1974
(Upper layer)

	MAY	JUN	JUL	AUG	SEP	OCT	NOV	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6									
Calanoids N1	846	144	23	49	0	9	7	154	.09
Calanoids N2	1564	204	236	194	35	0	12	321	.18
Calanoids N3	2379	74	29	31	0	0	0	359	.21
Calanoids N4	4209	335	223	0	43	0	0	687	.40
Calanoids N5	6615	285	114	0	55	0	0	1010	.58
Calanoids N6	14381	430	206	0	0	162	0	2168	1.25
SUB TOTAL	29994	1472	831	274	133	171	19	4699	2.70
Calanoida (Copepodids) C1-C5									
Calanoids C1	12038	3050	195	0	95	0	0	2197	1.26
Calanoids C2	2813	2365	291	155	142	0	0	824	.47
Calanoids C3	0	5108	255	0	999	0	0	909	.52
Calanoids C4	0	3280	524	21892	1027	1645	356	4103	2.36
Calanoids C5	0	892	0	17567	58707	109119	484	26681	15.35
SUB TOTAL	14851	14695	1265	39614	60970	110764	840	34714	19.97
Cyclopoida (Nauplii) N1-N6									
Cyclopoids N1	167	34	128	101	10	517	53	144	.08
Cyclopoids N2	442	22	100	155	0	983	462	309	.18
Cyclopoids N3	612	215	487	506	84	1495	5420	1260	.72
Cyclopoids N4	1149	489	529	607	189	61	425	493	.28
Cyclopoids N5	1094	573	482	309	184	18	0	380	.22
Cyclopoids N6	1253	587	264	94	258	115	19	370	.21
SUB TOTAL	4717	1920	1990	1772	725	3189	6379	2956	1.70
Cyclopoida (Copepodids) C1-C5									
Cyclopoids C1	6466	0	541	801	448	65	0	1189	.68
Cyclopoids C2	8384	91	438	860	71	0	0	1406	.81
Cyclopoids C3	2840	355	142	1367	139	111	192	735	.42
Cyclopoids C4	180	675	1350	1713	264	44448	5130	7683	4.42
Cyclopoids C5	0	0	862	922	0	676	51216	7668	4.41
SUB TOTAL	17870	1121	3333	5683	922	45300	56538	18681	10.74
Calanoida (Adults) C6									
Diaptomus minutus (m)	14509	2519	0	1437	0	20530	52865	13123	7.55
Diaptomus minutus (f)	11190	3348	2678	6685	873	36383	70266	18775	10.80
Diaptomus sicilis (m)	1029	0	0	0	0	0	69442	10067	5.79
Diaptomus sicilis (f)	17816	0	0	0	2615	67020	148683	33733	19.40
Epischura lacustris (m)	0	6113	0	0	0	3832	0	1421	.82
Epischura lacustris (f)	0	18611	0	0	0	17500	0	5159	2.97
SUB TOTAL	44544	30591	2678	8122	3488	145265	341256	82278	47.32
Cyclopoida (Adults) C6									
Tropocyclops prasinus mexicanus (m)	0	0	96	309	189	0	0	85	.05
Tropocyclops prasinus mexicanus (f)	399	0	0	1923	195	626	406	507	.29
Mesocyclops edax (m)	0	0	1896	676	618	495	0	526	.30
Mesocyclops edax (f)	3278	7684	0	0	0	2408	0	1910	1.10
Cyclops bicuspidatus thomasi (m)	723	0	0	0	0	327	0	150	.09
Cyclops bicuspidatus thomasi (f)	8167	0	1020	0	0	72803	0	11713	6.74
SUB TOTAL	12567	7684	3012	2908	1002	76659	406	14891	8.56

Cladocera									
Diaphanosoma birgei	0	0	3020	14944	2369	2437	0	3260	1.87
Holopedium gibberum	2140	0	0	0	0	0	0	306	.18
Daphnia galeata mendotae	0	21261	0	21548	6297	16802	7563	10496	6.04
Bosmina longirostris	158	2542	1133	6587	708	0	0	1590	.91
SUB TOTAL	2298	23803	4153	43129	9374	19239	7563	15651	9.00
TOTAL CRUSTACEA	126841	81286	17262	101502	76614	400587	413001	173870	100.00
%Cladocera	1.81	29.28	24.06	42.49	12.24	4.80	1.83	9.00	
%Calanoida (Nauplii) N1-N6	23.65	1.81	4.81	.27	.17	.04	.00	2.70	
%Calanoida (Copepodids) C1-C5	11.71	18.08	7.33	39.03	79.58	27.65	.20	19.97	
%Calanoida (Adults) C6	35.12	37.63	15.51	8.00	4.55	36.26	82.63	47.32	
%Cyclopoida (Nauplii) N1-N6	3.72	2.36	11.53	1.75	.95	.80	1.54	1.70	
%Cyclopoida (Copepodids) C1-C5	14.09	1.38	19.31	5.60	1.20	11.31	13.69	10.74	
%Cyclopoida (Adults) C6	9.91	9.45	17.45	2.86	1.31	19.14	.10	8.56	
Rotifera									
Globular rotifers	233	415	754	351	155	75	40	289	8.91
Polyarthra vulgaris	1576	677	1008	812	1443	348	294	880	27.13
Filinia longisetae	0	0	0	83	0	30	0	16	.50
Kellicottia longispina	1138	1084	2726	634	728	522	858	1099	33.89
Keratella cochlearis	1026	535	78	63	3	1635	1057	628	19.38
Keratella hiemalis	437	0	0	0	0	0	53	70	2.16
Asplanchna priodonta	0	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	170	0	0	0	0	243	88	72	2.21
Trichocerca cylindrica	32	0	0	0	0	0	0	5	.14
Trichocera sp.	0	0	4	0	14	9	11	5	.17
Conochilus unicornis	46	0	0	0	0	0	0	7	.20
Ploesoma sp.	0	0	0	0	0	0	0	0	0.00
Ascomorpha sp.	0	0	0	0	0	0	0	0	0.00
Gastropus sp.	3	0	0	95	75	265	246	98	3.01
Collotheca sp.	0	0	0	0	0	0	0	0	0.00
Keratella taurocephala	17	19	10	5	20	45	35	22	.67
lecane sp.	0	0	9	0	9	0	0	3	.08
Anuraeopsis fissa	0	0	34	35	8	4	0	12	.36
Colurella sp.	0	0	0	0	0	0	0	0	0.00
lepadella sp.	0	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0	0.00
Polyarthra remata	0	0	264	0	0	0	8	39	1.20
Ploesoma hudsoni	0	0	0	0	0	0	0	0	0.00
SUB TOTAL	4678	2730	4887	2078	2455	3176	2690	3242	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	131519	84016	22149	103580	79069	403763	415691	177112	
%Cladocera	1.75	28.33	18.75	41.64	11.86	4.76	1.82	8.84	
%Calanoida	67.97	55.65	21.55	46.35	81.69	63.45	82.30	68.71	
%Cyclopoida	26.73	12.77	37.63	10.00	3.35	31.00	15.23	20.62	
%Rotifera	3.56	3.25	22.06	2.01	3.10	.79	.65	1.83	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (MG/M^2)

From June 19, 1974 To September 11, 1974
(Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	9	4	9	3	6	.00
Calanoida N2	57	14	0	0	18	.01
Calanoida N3	82	0	0	0	21	.01
Calanoida N4	246	36	0	0	71	.05
Calanoida N5	102	0	0	18	30	.02
Calanoida N6	313	27	0	21	90	.06
SUB TOTAL	809	81	9	42	235	.15
Calanoida (Copepodida) C1-C5						
Calanoida C1	578	39	0	31	162	.10
Calanoida C2	1927	117	0	0	511	.33
Calanoida C3	26290	2407	0	0	7174	4.60
Calanoida C4	36929	93024	30540	4236	41132	26.35
Calanoida C5	1266	19812	76963	44750	35698	22.87
SUB TOTAL	66990	115399	107503	49017	84677	54.24
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	25	27	20	9	20	.01
Cyclopoida N2	16	15	53	16	25	.02
Cyclopoida N3	51	57	65	10	46	.03
Cyclopoida N4	170	158	142	34	126	.08
Cyclopoida N5	352	19	166	7	136	.09
Cyclopoida N6	227	102	40	102	118	.08
SUB TOTAL	841	378	486	178	471	.30
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	361	145	57	29	148	.09
Cyclopoida C2	1545	1575	261	0	845	.54
Cyclopoida C3	1826	6534	2932	1056	3080	1.97
Cyclopoida C4	6708	1564	855	2221	2837	1.82
Cyclopoida C5	7499	15668	1959	502	6362	4.08
SUB TOTAL	17939	25476	6064	3808	13272	8.50
Calanoida (Adults) C6						
Diaptomus minutus (m)	926	0	308	0	309	.20
Diaptomus minutus (f)	4517	400	0	642	1387	.89
Diaptomus sicilis (f)	0	0	0	0	0	0.00
Epischura lacustris (m)	2249	0	0	0	562	.36
Epischura lacustris (f)	6847	3342	0	0	2547	1.63
SUB TOTAL	14539	3742	308	642	4805	3.08
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	0	0	0	0	0.00
Tropocyclops prasinus mexicanus (f)	0	0	91	0	23	.01
Mesocyclops edax (m)	0	1135	0	0	284	.18
Mesocyclops edax (f)	7068	1979	1410	2176	3008	1.93
Cyclops bicuspidatus thomasi (m)	0	4473	10341	1034	3687	2.36
Cyclops bicuspidatus thomasi (f)	0	498	5152	1084	1674	1.07
SUB TOTAL	7068	8345	16994	4294	8675	5.56

Cladocera						
Diaphanosoma birgei	0	923	1236	1446	1029	.67
Holopedium gibberum	2716	0	0	0	679	.43
Daphnia galeata mendotae	22087	73649	65729	2850	41086	26.32
Bosmina longirostris	3732	324	465	207	1182	.76
SUB TOTAL	28535	74446	67430	5033	43986	28.17
TOTAL CRUSTACEA	136721	226367	198594	62804	156122	100.00
%Cladocera	20.87	33.11	33.95	8.01	28.17	
%Calanoida (Nauplii) N1-N6	.59	.04	.00	.07	.15	
%Calanoida (Copepodida) C1-C5	49.00	50.98	54.03	78.85	54.24	
%Calanoida (Adulte) C6	10.63	1.65	.16	1.01	3.08	
%Cyclopoida (Nauplii) N1-N6	.62	.17	.24	.28	.30	
%Cyclopoida (Copepodida) C1-C5	13.12	11.25	3.05	5.74	8.50	
%Cyclopoida (Adulte) C6	5.17	2.80	8.56	6.84	5.56	
Rotifera						
Globular rotifera	64	23	8	94	49	1.00
Polyarthra vulgaris	2573	1214	358	398	1136	23.46
Filinia longiseta	0	0	0	0	0	0.00
Kellicottia longispina	1801	3070	978	386	1559	32.20
Keratella cochlearis	764	897	504	696	713	14.73
Keratella hiemalis	31	0	0	0	8	.16
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	81	139	176	31	107	2.21
Trichocerca cylindrica	0	0	77	0	19	.40
Trichocera sp.	3	18	62	30	28	.58
Conochilus unicornis	3	0	9	0	3	.06
Ploesoma sp.	0	0	13	4	4	.09
Asplanchna sp.	333	167	47	0	137	2.83
Gastropus sp.	954	899	1228	311	846	17.47
Collotheca sp.	462	265	173	0	224	4.62
Keratella taurocephala	7	0	0	7	4	.07
Lecane sp.	0	0	0	0	0	0.00
Anuraeopsis fissa	0	7	0	5	3	.06
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	0	11	0	0	3	.06
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	7076	6695	3633	1957	4840	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	143797	233062	202227	64761	160962	
%Cladocera	19.84	32.16	33.34	7.77	27.33	
%Calanoida	57.26	51.15	53.22	76.73	55.74	
%Cyclopoida	17.96	13.82	11.64	12.48	13.93	
%Rotifera	4.92	2.87	1.80	3.02	3.01	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 22, 1974 To November 6 , 1974 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	NOV	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6									
Calanoida N1	846	153	27	59	3	9	7	158	.06
Calanoida N2	1564	262	251	194	35	0	12	331	.13
Calanoida N3	2379	156	29	31	0	0	0	371	.14
Calanoida N4	4209	582	260	0	43	0	0	728	.28
Calanoida N5	6615	387	114	0	73	0	0	1027	.39
Calanoida N6	14381	744	234	0	21	162	0	2220	.84
SUB TOTAL	29994	2284	915	284	175	171	19	4835	1.84
Calanoida (Copepodids) C1-C5									
Calanoida C1	12038	3629	234	0	126	0	0	2290	.87
Calanoida C2	2813	4293	408	155	142	0	0	1116	.42
Calanoida C3	0	31398	2662	0	999	0	0	5008	1.90
Calanoida C4	0	40209	93549	52232	5263	1645	356	27608	10.49
Calanoida C5	0	2159	19812	94531	103457	109119	484	47080	17.90
SUB TOTAL	14851	81688	116665	146918	109987	110764	840	83102	31.59
Cyclopoida (Nauplii) N1-N6									
Cyclopoida N1	167	60	155	121	20	517	53	156	.06
Cyclopoida N2	442	39	115	209	16	983	462	324	.12
Cyclopoida N3	612	266	545	571	94	1495	5420	1286	.49
Cyclopoida N4	1149	660	687	750	224	61	425	565	.21
Cyclopoida N5	1094	926	502	476	191	18	0	458	.17
Cyclopoida N6	1253	815	367	134	361	115	19	438	.17
SUB TOTAL	4717	2766	2371	2261	906	3189	6379	3227	1.23
Cyclopoida (Copepodids) C1-C5									
Cyclopoida C1	6466	361	687	858	477	65	0	1273	.48
Cyclopoida C2	8384	1637	2014	1122	71	0	0	1890	.72
Cyclopoida C3	2840	2182	6646	4300	1195	111	192	2495	.95
Cyclopoida C4	180	7383	2914	2588	2486	48448	5130	9304	3.54
Cyclopoida C5	0	7499	16550	2882	302	676	51216	11304	4.30
SUB TOTAL	17870	19062	28811	11750	4531	45300	56538	26266	9.98
Calanoida (Adults) C6									
Diaptomus minutus (m)	14509	3446	0	1714	0	20530	52865	13295	5.05
Diaptomus minutus (f)	11190	7865	3079	6685	1506	36383	70266	19568	7.44
Diaptomus sicilis (m)	1029	0	0	0	0	0	69442	10067	3.83
Diaptomus sicilis (f)	17816	0	0	0	2615	67020	148683	33733	12.82
Epischura lacustris (m)	0	8363	0	0	0	3832	0	1742	.66
Epischura lacustris (f)	0	25458	3342	0	0	17500	0	6614	2.51
SUB TOTAL	44544	45132	6421	8399	4121	145265	341256	85020	32.32
Cyclopoida (Adults) C6									
Tropocyclops prasinus mexicanus (m)	0	0	96	309	189	0	0	85	.04
Tropocyclops prasinus mexicanus (f)	399	0	0	2005	195	626	406	519	.20
Mesocyclops edax (m)	0	0	3032	676	618	495	0	689	.26
Mesocyclops edax (f)	3278	14752	1379	1410	2176	2408	0	3629	1.38
Cyclops bicuspidatus thomasi (m)	723	0	3373	10341	1034	327	0	2257	.86
Cyclops bicuspidatus thomasi (f)	8167	0	1479	5152	1084	72803	0	12669	4.82
SUB TOTAL	12567	14752	9359	19893	5296	76659	406	19847	7.54

Cladocera									
Diaphanosoma birgei	0	0	3943	16231	4366	2437	0	3854	1.46
Holopedium gibberum	2140	2716	0	0	0	0	0	694	.26
Daphnia galeata mendotae	0	43349	73699	87278	9127	16802	7563	33974	12.91
Bosmina longirostris	158	6275	1458	7052	916	0	0	2266	.86
SUB TOTAL	2298	52340	79100	110561	14409	19239	7563	40787	15.50
TOTAL CRUSTACEA	126841	218024	243642	300066	139425	400587	413001	263084	100.00
%Cladocera	1.81	24.01	32.47	36.85	10.33	4.80	1.83	15.50	
%Calanoida (Nauplii) N1-N6	23.65	1.05	.38	.09	.13	.04	.00	1.84	
%Calanoida (Copepodids) C1-C5	11.71	37.47	47.88	48.96	78.89	27.65	.20	31.59	
%Calanoida (Adults) C6	35.12	20.70	2.64	2.80	2.96	36.26	82.63	32.32	
%Cyclopoida (Nauplii) N1-N6	3.72	1.27	.97	.75	.65	.80	1.54	1.23	
%Cyclopoida (Copepodids) C1-C5	14.09	8.74	11.83	3.92	3.25	11.31	13.69	9.98	
%Cyclopoida (Adults) C6	9.91	6.77	3.84	6.63	3.80	19.14	.10	7.54	
Rotifera									
Globular rotifers	233	479	777	360	255	75	40	317	5.27
Polyarthra vulgaris	1576	3251	2223	1170	1842	348	294	1529	25.44
Filinia longiseta	0	0	0	83	0	30	0	16	.27
Kellicottia longispina	1138	2886	5797	1613	1115	522	858	1990	33.11
Keratella cochlearis	1026	1300	976	568	689	1635	1057	1036	17.23
Keratella hiemalis	437	31	0	0	0	0	53	74	1.24
Asplanchna priodonta	0	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	170	81	139	176	31	243	88	133	2.21
Trichocerca cylindrica	32	0	0	77	0	0	0	16	.26
Trichocerca sp.	0	3	22	62	45	9	11	22	.36
Conochilus unicornis	46	3	0	9	0	0	0	8	.14
Ploesoma sp.	0	0	0	13	4	0	0	2	.04
Ascomorpha sp.	0	333	167	47	0	0	0	78	1.30
Gastropus sp.	3	954	889	1323	387	265	246	581	9.67
Collotheca sp.	0	462	260	173	0	0	0	128	2.13
Keratella taurocephala	17	26	10	5	27	45	35	24	.39
Lecane sp.	0	0	9	0	9	0	0	3	.04
Anuraeopsis fissa	0	0	42	36	14	4	0	14	.23
Colurella sp.	0	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0	0.00
Polyarthra remata	0	0	275	0	0	0	8	40	.67
Ploesoma hudsoni	0	0	0	0	0	0	0	0	0.00
SUB TOTAL	4678	9809	11586	5715	4418	3176	2690	6010	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	131519	227833	255228	305781	143843	403763	415691	269094	
%Cladocera	1.75	22.97	30.99	36.16	10.02	4.76	1.82	15.16	
%Calanoida	67.97	56.67	48.58	50.89	79.45	63.45	82.30	64.27	
%Cyclopoida	26.73	16.06	15.88	11.09	7.46	31.00	15.23	18.34	
%Rotifera	3.56	4.31	4.54	1.87	3.07	.79	.65	2.23	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 16, 1977 To September 19, 1977
(Upper layer)

	MAY	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6							
Calanoida N1	739	49	190	108	39	225	.23
Calanoida N2	2371	377	225	272	62	661	.68
Calanoida N3	3091	249	1227	453	0	1004	1.03
Calanoida N4	2175	375	554	671	0	755	.77
Calanoida N5	1756	242	706	319	0	605	.62
Calanoida N6	4714	284	0	260	235	1099	1.12
SUB TOTAL	14846	1576	2902	2083	336	4349	4.45
Calanoida (Copepodids) C1-C5							
Calanoida C1	9035	1836	402	190	0	2293	2.35
Calanoida C2	17991	3021	0	532	0	4309	4.41
Calanoida C3	16778	10573	0	1899	0	5850	5.99
Calanoida C4	3436	20642	6499	7740	0	7663	7.84
Calanoida C5	0	2947	2947	14628	68186	17742	18.15
SUB TOTAL	47240	39019	9848	24989	68186	37856	38.74
Cyclopoida (Nauplii) N1-N6							
Cyclopoida N1	85	48	92	21	95	68	.07
Cyclopoida N2	218	97	75	120	31	108	.11
Cyclopoida N3	344	121	414	188	97	233	.24
Cyclopoida N4	213	413	647	401	66	348	.36
Cyclopoida N5	368	457	498	503	0	365	.37
Cyclopoida N6	384	370	242	659	200	371	.38
SUB TOTAL	1612	1506	1968	1892	489	1493	1.53
Cyclopoida (Copepodids) C1-C5							
Cyclopoida C1	0	1247	171	1781	141	668	.68
Cyclopoida C2	968	159	301	2806	498	946	.97
Cyclopoida C3	4401	620	0	2874	1937	1966	2.01
Cyclopoida C4	1785	557	0	10930	3684	3391	3.47
Cyclopoida C5	0	0	0	3942	1471	1083	1.11
SUB TOTAL	7154	2583	472	22333	7731	8055	8.24
Calanoida (Adults) C6							
Diaptomus minutus (m)	13319	0	5545	2455	4581	5180	5.30
Diaptomus minutus (f)	21629	3685	11057	8498	0	8974	9.18
Diaptomus sicilis (f)	5915	0	0	0	0	1183	1.21
Epischura lacustris (m)	0	0	0	0	33358	6672	6.83
Epischura lacustris (f)	0	15364	0	0	0	3073	3.14
SUB TOTAL	40863	19049	16602	10953	37939	25081	25.66
Cyclopoida (Adults) C6							
Tropocyclops prasinus mexicanus (m)	0	0	0	1071	658	346	.35
Tropocyclops prasinus mexicanus (f)	442	412	0	730	2043	725	.74
Mesocyclops edax (m)	0	0	0	2470	4312	1356	1.39
Mesocyclops edax (f)	40534	0	0	0	0	8107	8.30
Cyclops bicuspidatus thomasi (m)	0	0	0	815	0	163	.17
Cyclops bicuspidatus thomasi (f)	0	0	0	0	20889	4178	4.28
Cyclops vernalis (f)	0	0	0	0	0	0	0.00
SUB TOTAL	40976	412	0	5086	27902	14875	15.22

Cladocera							
Diaphanosoma birgei	1199	7138	1819	166	0	2064	2.11
Holopedium gibberum	0	0	0	0	0	0	0.00
Daphnia galeata mendotae	0	0	0	0	6582	1316	1.35
Bosmina longirostris	1126	905	2867	5407	2875	2636	2.70
SUB TOTAL	2325	8043	4686	5573	9457	6017	6.16
TOTAL CRUSTACEA	155016	72188	36478	72909	152040	97726	100.00
%Cladocera	1.50	11.14	12.85	7.64	6.22	6.16	
%Calanoida (Nauplii) N1-N6	9.58	2.18	7.96	2.86	.22	4.45	
%Calanoida (Copepodids) C1-C5	30.47	54.05	27.00	34.27	44.85	38.74	
%Calanoida (Adults) C6	26.36	26.39	45.51	15.02	24.95	25.66	
%Cyclopoida (Nauplii) N1-N6	1.04	2.09	5.40	2.60	.32	1.53	
%Cyclopoida (Copepodids) C1-C5	4.62	3.58	1.29	30.63	5.08	8.24	
%Cyclopoida (Adults) C6	26.43	.57	0.00	6.98	18.35	15.22	
Rotifera							
Globular rotifers	0	14	93	88	11	41	.26
Polyarthra vulgaris	2566	1432	3357	12672	258	4057	25.12
Filinia longisetae	0	0	0	0	0	0	0.00
Kellicottia longispina	16312	2993	993	1762	553	4523	28.00
Keratella cochlearis	3195	99	181	515	53	809	5.01
Keratella hiemalis	106	0	0	0	0	21	.13
Asplanchna priodonta	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	384	63	433	1598	14	498	3.09
Trichocerca cyclindrica	0	0	101	89	0	38	.24
Trichocera sp.	41	187	658	415	193	299	1.85
Conochilus unicornis	8934	133	57	115	0	1848	11.44
Ploesoma sp.	0	138	1727	589	54	502	3.11
Ascomorpha sp.	21	222	40	324	100	141	.88
Gastropus sp.	1635	38	147	162	101	417	2.58
Collotheca sp.	91	218	138	35	672	231	1.43
Keratella taurocephala	46	57	238	1737	340	484	2.99
Lecane sp.	0	0	40	0	33	15	.09
Anuraeopsis fissa	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0.00
Polyarthra remata	0	293	10103	754	0	2230	13.81
Ploesoma hudsoni	0	0	0	0	0	0	0.00
SUB TOTAL	33331	5887	18306	20855	2382	16152	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	188347	78075	54784	93764	154422	113878	
%Cladocera	1.23	10.30	8.55	5.94	6.12	5.28	
%Calanoida	54.66	76.39	53.58	40.55	68.94	59.09	
%Cyclopoida	26.41	5.76	4.45	31.26	23.39	21.45	
%Rotifera	17.70	7.54	33.41	22.24	1.54	14.18	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 16, 1977 To October 17, 1977 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	702	41	176	138	53	36	191	.07
Calanoida N2	1639	279	386	226	34	0	427	.15
Calanoida N3	2520	159	707	259	35	0	613	.21
Calanoida N4	2808	127	297	437	0	0	612	.21
Calanoida N5	3078	133	379	222	0	0	635	.22
Calanoida N6	4450	789	197	301	129	0	978	.34
SUB TOTAL	15197	1528	2142	1583	251	36	3456	1.20
Calanoida (Copepodids) C1-C5								
Calanoida C1	8273	1272	123	335	0	153	1693	.59
Calanoida C2	16626	3379	1143	573	0	0	3620	1.25
Calanoida C3	33516	26581	3543	1611	0	0	10875	3.77
Calanoida C4	16536	89878	103803	21691	1267	0	38863	13.47
Calanoida C5	785	7489	41671	67059	103066	1125	36866	12.78
SUB TOTAL	75736	128599	150283	91269	104333	1278	91916	31.86
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	54	76	166	587	283	42	201	.07
Cyclopoida N2	228	166	297	1540	676	214	520	.18
Cyclopoida N3	482	449	909	1995	1977	609	1070	.37
Cyclopoida N4	517	502	628	930	2154	569	883	.31
Cyclopoida N5	766	648	534	676	698	1139	744	.26
Cyclopoida N6	544	309	144	704	120	294	353	.12
SUB TOTAL	2591	2150	2678	6432	5908	2867	3771	1.31
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	743	1124	102	1492	329	206	666	.23
Cyclopoida C2	2519	541	565	2296	587	0	1085	.38
Cyclopoida C3	13347	2685	341	3086	2497	400	3726	1.29
Cyclopoida C4	144286	50266	4025	7392	8031	46654	43442	15.06
Cyclopoida C5	81231	52581	3710	4938	950	9441	25475	8.83
SUB TOTAL	242126	107197	8743	19204	12394	56701	74394	25.79
Calanoida (Adults) C6								
Diaptomus minutus (m)	8946	0	6663	3100	4152	52690	12592	4.36
Diaptomus minutus (f)	24505	6032	12542	9522	4599	55345	18758	6.50
Diaptomus sicilis (f)	3403	0	0	0	0	0	567	.20
Epischura lacustris (m)	16882	2152	0	1534	24323	12124	9503	3.29
Epischura lacustris (f)	9312	17976	0	0	17982	18454	10621	3.68
SUB TOTAL	63048	26160	19205	14156	51056	138613	52040	18.04
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (m)	0	126	0	821	830	587	394	.14
Tropocyclops prasinus mexicanus (f)	244	175	0	793	4456	7323	2165	.75
Mesocyclops edax (m)	1391	0	1051	5169	2380	0	1665	.58
Mesocyclops edax (f)	32214	0	3699	15317	31664	10455	15558	5.39
Cyclops bicuspidatus thomasi (m)	1978	13730	17153	4571	400	1697	6588	2.28
Cyclops bicuspidatus thomasi (f)	1646	4550	42244	25254	30246	4505	18074	6.26
Cyclops vernalis (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	37473	18581	64147	51925	69976	24567	44445	15.40

Cladocera								
Diaphanosoma birgei	1508	21157	924	203	405	175	4062	1.41
Holopedium gibberum	20555	7105	0	0	0	0	4610	1.60
Daphnia galeata mendotae	13171	10123	0	1471	7878	0	5441	1.89
Bosmina longirostris	1290	445	3198	4363	3079	13897	4379	1.52
SUB TOTAL	36524	38830	4122	6037	11362	14072	18491	6.41
TOTAL CRUSTACEA	472695	323045	251320	190606	255280	238134	288513	100.00
%Cladocera	7.73	12.02	1.64	3.17	4.45	5.91	6.41	
%Calanoida (Nauplii) N1-N6	3.21	.47	.85	.83	.10	.02	1.20	
%Calanoida (Copepodids) C1-C5	16.02	39.81	59.80	47.88	40.87	.54	31.86	
%Calanoida (Adults) C6	13.34	8.10	7.64	7.43	20.00	58.21	18.04	
%Cyclopoida (Nauplii) N1-N6	.55	.67	1.07	3.37	2.31	1.20	1.31	
%Cyclopoida (Copepodids) C1-C5	51.22	33.18	3.48	10.08	4.86	23.81	25.79	
%Cyclopoida (Adults) C6	7.93	5.75	25.52	27.24	27.41	10.32	15.40	
Rotifera								
Globular rotifers	0	495	53	84	15	20	111	.38
Polyarthra vulgaris	15253	13991	11450	12071	294	537	8933	30.23
Filinia longiseta	0	12	0	0	0	0	2	.01
Kellicottia longispina	17479	5763	7328	4495	769	1072	6151	20.82
Keratella cochlearis	7163	6945	4033	2976	1295	34	3741	12.66
Keratella hiemalis	2865	0	16	0	0	0	480	1.62
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	776	3137	6185	4331	523	5	2493	8.44
Trichocerca cyclindrica	0	0	30	64	7	0	17	.06
Trichocerca sp.	38	313	1125	1015	359	242	515	1.74
Conochilus unicornis	6023	104	54	112	0	1	1049	3.55
Ploesoma sp.	0	72	1157	672	60	0	327	1.11
Asconorpha sp.	54	1006	44	286	219	127	289	.98
Gastropus sp.	7339	900	653	718	159	109	1646	5.57
Collotheca sp.	91	265	644	127	857	3265	875	2.96
Keratella taurocephala	52	44	193	1480	903	3192	977	3.31
Lecane sp.	0	0	24	0	18	0	7	.02
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	0	1139	9326	1128	0	26	1937	6.55
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	57133	34186	42315	29559	5478	8630	29550	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	529828	357231	293635	220165	260758	246764	318064	
%Cladocera	6.89	10.87	1.40	2.74	4.36	5.70	5.81	
%Calanoida	29.06	43.75	58.45	48.60	59.69	56.70	46.35	
%Cyclopoida	53.26	35.81	25.74	35.23	33.85	34.10	38.55	
%Rotifera	10.78	9.57	14.41	13.43	2.10	3.50	9.29	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 5 , 1978 to September 25, 1978

(Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	102	82	251	6	110	.10
Calanoida N2	268	385	360	59	268	.24
Calanoida N3	1491	254	825	138	677	.60
Calanoida N4	1321	524	532	207	646	.57
Calanoida N5	1009	481	112	559	540	.48
Calanoida N6	3864	399	0	297	1140	1.01
SUB TOTAL	8055	2125	2080	1266	3382	3.00
Calanoida (Copepodids) C1-C5						
Calanoida C1	4320	2080	0	957	1839	1.63
Calanoida C2	11167	4299	0	704	4043	3.58
Calanoida C3	28641	24092	504	1771	13752	12.19
Calanoida C4	4646	49576	4148	8656	16757	14.86
Calanoida C5	0	8355	7095	38635	13521	11.99
SUB TOTAL	48774	88402	11747	50723	49912	44.25
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	99	92	33	5	57	.05
Cyclopoida N2	456	163	144	33	199	.18
Cyclopoida N3	761	181	227	67	309	.27
Cyclopoida N4	520	188	699	166	393	.35
Cyclopoida N5	0	137	478	429	261	.23
Cyclopoida N6	260	83	1048	420	453	.40
SUB TOTAL	2096	844	2629	1120	1672	1.48
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	245	342	825	586	500	.44
Cyclopoida C2	863	200	0	253	329	.29
Cyclopoida C3	4611	584	0	464	1415	1.25
Cyclopoida C4	797	398	1605	1503	1076	.95
Cyclopoida C5	0	592	852	3843	1322	1.17
SUB TOTAL	6516	2116	3282	6649	4641	4.11
Calanoida (Adults) C6						
Diaptomus minutus (m)	3964	3826	6656	6990	5359	4.75
Diaptomus minutus (f)	7904	2542	5318	11163	6732	5.97
Epischura lacustris (m)	0	0	0	35884	8971	7.95
Epischura lacustris (f)	0	0	0	3901	975	.86
SUB TOTAL	11868	6368	11974	57938	22037	19.54
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	1060	0	1245	576	.51
Tropocyclops prasinus mexicanus (f)	4716	0	789	3833	2335	2.07
Mesocyclops edax (m)	0	0	0	2066	517	.46
Mesocyclops edax (f)	9070	0	6074	4218	4841	4.29
Cyclops bicuspidatus thomasi (m)	0	2291	0	0	573	.51
Cyclops bicuspidatus thomasi (f)	0	0	0	535	134	.12
SUB TOTAL	13786	3351	6863	11897	8974	7.96

Cladocera						
Diaphanosoma birgei	0	2056	0	6910	2242	1.99
Holopedium gibberum	62899	0	0	219	15780	13.99
Daphnia galeata mendotae	0	0	0	3749	937	.83
Bosmina longirostris	4058	744	5531	2542	3219	2.85
SUB TOTAL	66957	2800	5531	13420	22177	19.66
TOTAL CRUSTACEA	158052	106006	44106	143013	112794	100.00
%Cladocera	42.36	2.64	12.54	9.38	19.66	
%Calanoida (Nauplii) N1-N6	5.10	2.00	4.72	.89	3.00	
%Calanoida (Copepodids) C1-C5	30.86	83.39	26.63	35.47	44.25	
%Calanoida (Adults) C6	7.51	6.01	27.15	40.51	19.54	
%Cyclopoida (Nauplii) N1-N6	1.33	.80	5.96	.78	1.48	
%Cyclopoida (Copepodids) C1-C5	4.12	2.00	7.44	4.65	4.11	
%Cyclopoida (Adults) C6	8.72	3.16	15.56	8.32	7.96	
Rotifera						
Globular rotifers	0	2	0	43	11	.21
Polyarthra vulgaris	448	271	386	2096	800	14.73
Filinia longisetae	0	0	0	0	0	0.00
Kellicottia longispina	3799	961	632	1728	1780	32.77
Keratella cochlearis	241	18	0	1	65	1.20
Keratella hiemalis	0	0	0	0	0	0.00
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	0	0	0	0	0.00
Trichocerca cyclindrica	0	33	0	0	8	.15
Trichocera sp.	12	5	17	15	12	.23
Conochilus unicornis	7041	10	83	47	1795	33.05
Ploesoma sp.	47	44	88	372	138	2.54
Ascomorpha sp.	86	6	97	0	47	.87
Gastropus sp.	17	375	129	388	227	4.18
Collotheca sp.	6	100	116	503	181	3.34
Keratella taurocephala	232	799	62	250	336	6.18
Lecane sp.	28	0	0	0	7	.13
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	0	23	24	46	23	.43
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	11957	2647	1634	5489	5432	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	170009	108653	45740	148502	118226	
%Cladocera	39.38	2.58	12.09	9.04	18.76	
%Calanoida	40.41	89.18	56.41	74.02	63.72	
%Cyclopoida	13.17	5.81	27.93	13.24	12.93	
%Rotifera	7.03	2.44	3.57	3.70	4.59	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 5 , 1978 To September 25, 1978
(Middle layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	48	24	39	37	37	.03
Calanoida N2	114	0	184	14	78	.06
Calanoida N3	499	31	201	24	189	.15
Calanoida N4	1033	46	227	22	332	.27
Calanoida N5	1435	179	289	0	476	.39
Calanoida N6	2024	144	0	0	542	.44
SUB TOTAL	5153	424	940	97	1654	1.35
Calanoida (Copepodids) C1-C5						
Calanoida C1	1433	548	0	0	495	.40
Calanoida C2	7938	305	0	0	2061	1.68
Calanoida C3	25182	9586	432	273	8868	7.25
Calanoida C4	1100	65433	18677	1077	21572	17.64
Calanoida C5	0	3848	59298	25198	22086	18.06
SUB TOTAL	35653	79720	78407	26548	55082	45.03
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	82	16	189	311	150	.12
Cyclopoida N2	171	63	431	1823	622	.51
Cyclopoida N3	331	154	705	4541	1433	1.17
Cyclopoida N4	246	730	1095	1918	997	.82
Cyclopoida N5	0	1576	940	442	740	.60
Cyclopoida N6	308	299	1045	174	457	.37
SUB TOTAL	1138	2838	4405	9209	4398	3.60
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	611	663	635	393	576	.47
Cyclopoida C2	460	1045	991	354	713	.58
Cyclopoida C3	6555	2594	1444	1751	3086	2.52
Cyclopoida C4	5666	8911	5035	5525	6284	5.14
Cyclopoida C5	0	3291	6579	9003	4718	3.86
SUB TOTAL	13292	16504	14684	17026	15377	12.57
Calanoida (Adults) C6						
Diaptomus minutus (m)	0	0	0	661	165	.14
Diaptomus minutus (f)	18730	2607	3026	659	6256	5.11
Epischura lacustris (m)	0	0	0	4815	1204	.98
Epischura lacustris (f)	15616	6124	12615	0	8589	7.02
SUB TOTAL	34346	8731	15641	6135	16213	13.26
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	0	0	71	18	.01
Tropocyclops prasinus mexicanus (f)	1257	0	338	803	600	.49
Mesocyclops edax (m)	0	0	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	15908	3977	3.25
Cyclops bicuspidatus thomasi (m)	0	9495	9195	2949	5410	4.42
Cyclops bicuspidatus thomasi (f)	4283	2519	12111	11659	7643	6.25
SUB TOTAL	5540	12014	21644	31390	17647	14.43

Cladocera						
Diaphanosoma birgei	0	419	0	241	165	.13
Holopedium gibberum	31394	0	0	0	7849	6.42
Daphnia galeata mendotae	9805	0	0	530	2584	2.11
Bosmina longirostris	4756	0	426	189	1343	1.10
SUB TOTAL	45955	419	426	960	11940	9.76
TOTAL CRUSTACEA	141077	120650	136147	91365	122310	100.00
%Cladocera	32.57	.35	.31	1.05	9.76	
%Calanoida (Nauplii) N1-N6	3.65	.35	.69	.11	1.35	
%Calanoida (Copepodids) C1-C5	25.27	66.08	57.59	29.06	45.03	
%Calanoida (Adults) C6	24.35	7.24	11.49	6.71	13.26	
%Cyclopoida (Nauplii) N1-N6	.81	2.35	3.24	10.08	3.60	
%Cyclopoida (Copepodids) C1-C5	9.42	13.68	10.79	18.64	12.57	
%Cyclopoida (Adults) C6	3.93	9.96	15.30	34.36	14.43	
Rotifera						
Globular rotifers	0	0	0	12	3	.04
Polyarthra vulgaris	1342	3210	386	2666	1901	24.09
Filinia longisetae	0	0	0	0	0	0.00
Kellicottia longispina	4204	6541	1185	430	3090	39.15
Keratella cochlearis	1037	2104	32	53	807	10.22
Keratella hiemalis	0	0	0	0	0	0.00
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	44	2362	7	331	686	8.69
Trichocerca cylindrica	0	0	0	6	2	.02
Trichocera sp.	13	48	68	4	33	.42
Conochilus unicornis	778	23	47	9	214	2.71
Ploesoma sp.	0	13	37	46	24	.30
Ascomorpha sp.	51	100	66	4	55	.70
Gastropus sp.	37	533	433	101	276	3.50
Collotheca sp.	0	301	878	162	335	4.25
Keratella taurocephala	165	307	8	39	130	1.64
Lecane sp.	0	0	0	2	1	.01
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	0	86	28	1229	336	4.25
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	7671	15628	3175	5094	7892	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	148748	136278	139322	96459	130202	
%Cladocera	30.89	.31	.31	1.00	9.17	
%Calanoida	50.52	65.22	68.18	33.98	56.03	
%Cyclopoida	13.43	23.01	29.24	59.74	28.74	
%Rotifera	5.16	11.47	2.28	5.28	6.06	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 5 , 1978 To September 25, 1978
(Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	0	0	0	0	0	0.00
Calanoida N2	0	4	10	0	4	.01
Calanoida N3	72	0	0	8	20	.06
Calanoida N4	255	18	0	0	68	.22
Calanoida N5	232	0	0	0	58	.19
Calanoida N6	280	61	0	0	85	.27
SUB TOTAL	839	83	10	8	235	.75
Calanoida (Copepodids) C1-C5						
Calanoida C1	397	39	0	0	109	.35
Calanoida C2	473	236	0	0	177	.57
Calanoida C3	2701	519	0	0	805	2.58
Calanoida C4	426	1280	308	0	504	1.61
Calanoida C5	0	871	0	248	280	.90
SUB TOTAL	3997	2945	308	248	1875	6.00
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	18	4	26	3	13	.04
Cyclopoida N2	118	14	26	32	48	.15
Cyclopoida N3	385	75	33	122	154	.49
Cyclopoida N4	589	374	11	76	263	.84
Cyclopoida N5	766	343	113	12	309	.99
Cyclopoida N6	549	31	51	8	160	.51
SUB TOTAL	2425	841	260	253	945	3.02
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	474	84	146	11	179	.57
Cyclopoida C2	1189	267	215	44	429	1.37
Cyclopoida C3	8899	612	250	56	2454	7.85
Cyclopoida C4	29448	34797	3655	425	17081	54.66
Cyclopoida C5	9827	3646	4822	557	4713	15.08
SUB TOTAL	49837	39406	9088	1093	24856	79.53
Calanoida (Adults) C6						
Diaptomus minutus (m)	546	0	395	0	235	.75
Diaptomus minutus (f)	0	0	0	0	0	0.00
Epischura lacustris (m)	0	0	0	0	0	0.00
Epischura lacustris (f)	0	0	0	0	0	0.00
SUB TOTAL	546	0	395	0	235	.75
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	0	0	10	3	.01
Tropocyclops prasinus mexicanus (f)	0	0	0	26	7	.02
Mesocyclops edax (m)	0	0	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	1016	254	.81
Cyclops bicuspidatus thomasi (m)	679	950	491	82	551	1.76
Cyclops bicuspidatus thomasi (f)	1661	2070	4204	853	2197	7.03
SUB TOTAL	2340	3020	4695	1987	3011	9.63

Cladocera						
Diaphanosoma birgei	0	0	0	0	0	0.00
Holopedium gibberum	0	0	0	0	0	0.00
Daphnia galeata mendotae	0	0	0	0	0	0.00
Bosmina longirostris	273	0	98	15	97	.31
SUB TOTAL	273	0	98	15	97	.31
TOTAL CRUSTACEA	60257	46295	14854	3604	31253	100.00
%Cladocera	.45	0.00	.66	.42	.31	
%Calanoida (Nauplii) N1-N6	1.39	.18	.07	.22	.75	
%Calanoida (Copepodida) C1-C5	6.63	6.36	2.07	6.88	6.00	
%Calanoida (Adults) C6	.91	0.00	2.66	0.00	.75	
%Cyclopoida (Nauplii) N1-N6	4.02	1.82	1.75	7.02	3.02	
%Cyclopoida (Copepodida) C1-C5	82.71	85.12	61.18	30.33	79.53	
%Cyclopoida (Adults) C6	3.88	6.52	31.61	55.13	9.63	
Rotifera						
Globular rotifers	0	0	0	0	0	0.00
Polyarthra vulgaris	2709	2489	1391	112	1675	35.17
Filinia longiseta	0	0	0	0	0	0.00
Kellicottia longispina	1493	2196	642	16	1087	22.82
Keratella cochlearis	1224	2486	194	1	976	20.50
Keratella hiemalis	167	0	0	0	42	.88
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	34	642	1699	12	597	12.53
Trichocerca cylindrica	0	0	0	0	0	0.00
Trichocera sp.	1	6	32	1	10	.21
Conochilus unicornis	398	0	0	0	100	2.09
Ploesoma sp.	0	0	0	4	1	.02
Asecomorpha sp.	3	0	5	0	2	.04
Gastropus sp.	164	139	66	3	93	1.95
Collotheca sp.	0	4	54	4	16	.33
Keratella taurocephala	21	45	0	2	17	.36
Lecane sp.	0	0	4	0	1	.02
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	2	1	3	2	.03
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	0	172	375	35	146	3.05
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	6214	8181	4463	193	4763	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	66471	54476	19317	3797	36015	
%Cladocera	.41	0.00	.51	.40	.27	
%Calanoida	8.10	5.56	3.69	6.74	6.51	
%Cyclopoida	82.14	79.42	72.70	87.78	80.00	
%Rotifera	9.35	15.02	23.10	5.08	13.22	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 8 , 1978 To October 23, 1978 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	360	150	107	290	44	9	160	.08
Calanoida N2	1150	382	390	556	74	14	428	.21
Calanoida N3	4474	2063	285	1026	170	0	1336	.65
Calanoida N4	1863	2610	589	760	229	35	1014	.49
Calanoida N5	365	2677	560	402	559	45	785	.38
Calanoida N6	55	6169	605	0	297	0	1188	.58
SUB TOTAL	8267	14051	2636	3034	1373	103	4911	2.40
Calanoida (Copepodida) C1-C5								
Calanoida C1	0	6151	2667	0	957	78	1642	.80
Calanoida C2	0	19579	4842	0	704	0	4188	2.04
Calanoida C3	0	56525	34198	937	2044	0	15617	7.62
Calanoida C4	0	6174	116291	23135	9734	0	25889	12.63
Calanoida C5	0	0	13075	66394	64082	2286	24306	11.86
SUB TOTAL	0	88429	171073	90466	77521	2364	71642	34.95
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	152	199	114	249	320	255	215	.10
Cyclopoida N2	298	746	242	602	1889	465	707	.34
Cyclopoida N3	895	1478	412	966	4731	1113	1599	.78
Cyclopoida N4	3198	1356	1292	1806	2161	1489	1884	.92
Cyclopoida N5	3265	766	2057	1533	883	695	1533	.75
Cyclopoida N6	1952	1118	413	2146	603	23	1043	.51
SUB TOTAL	9760	5663	4530	7302	10587	4040	6980	3.40
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	899	1331	1091	1607	991	66	998	.49
Cyclopoida C2	468	2513	1513	1206	652	117	1078	.53
Cyclopoida C3	0	20066	3791	1695	2271	113	4656	2.27
Cyclopoida C4	0	35911	44107	10296	7453	5620	17231	8.41
Cyclopoida C5	690	9827	7530	12255	13404	11393	9183	4.48
SUB TOTAL	2057	69648	58032	27059	24771	17309	33146	16.17
Calanoida (Adults) C6								
Diaptomus minutus (m)	4838	4511	3826	7051	7651	26344	9037	4.41
Diaptomus minutus (f)	16436	26635	5150	8344	11822	30013	16400	8.00
Epischura lacustris (m)	0	0	0	0	40699	0	6783	3.31
Epischura lacustris (f)	0	15616	6124	12615	3901	11916	8362	4.08
SUB TOTAL	21274	46762	15100	28010	64073	68273	40582	19.80
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (m)	0	0	1060	0	1327	231	436	.21
Tropocyclops prasinus mexicanus (f)	2078	5973	0	1128	4663	4157	3000	1.46
Mesocyclops edax (m)	0	0	0	0	2066	0	344	.17
Mesocyclops edax (f)	0	9070	0	6074	21143	0	6048	2.95
Cyclops bicuspidatus thomasi (m)	2338	679	12737	9687	3032	3006	5247	2.56
Cyclops bicuspidatus thomasi (f)	9805	5944	4590	16316	13047	3268	8828	4.31
SUB TOTAL	14221	21666	18387	33205	45278	10662	23903	11.66

Cladocera								
Diaphanosoma birgei	0	0	2476	0	7151	280	1651	.81
Holopedium gibberum	0	94293	0	0	219	0	15752	7.68
Daphnia galeata mendotae	0	9805	0	0	4279	0	2347	1.15
Bosmina longirostris	1149	9087	744	6057	2748	4760	4091	2.00
SUB TOTAL	1149	113185	3220	6057	14397	5040	23841	11.63
TOTAL CRUSTACEA	56728	359404	272978	195133	238000	107791	205006	100.00
%Cladocera	2.03	31.49	1.18	3.10	6.05	4.68	11.63	
%Calanoida (Nauplii) N1-N6	14.57	3.91	.97	1.55	.58	.10	2.40	
%Calanoida (Copepodida) C1-C5	0.00	24.60	62.67	46.36	32.57	2.19	34.95	
%Calanoida (Adulta) C6	37.50	13.01	5.53	14.35	26.92	63.34	19.80	
%Cyclopoida (Nauplii) N1-N6	17.20	1.58	1.66	3.74	4.45	3.75	3.40	
%Cyclopoida (Copepodida) C1-C5	3.63	19.38	21.26	13.87	10.41	16.06	16.17	
%Cyclopoida (Adulta) C6	25.07	6.03	6.74	17.02	19.02	9.89	11.66	
Rotifera								
Globular rotifera	0	0	2	0	56	0	10	.07
Polyarthra vulgaris	1614	4499	5970	2164	4875	1006	3355	26.01
Filinia longiseta	0	0	0	0	0	0	0	0.00
Kellicottia longispina	609	9497	9699	2460	2175	654	4182	32.42
Keratella cochlearis	115	2503	4609	226	56	5	1252	9.71
Keratella hiemalis	219	167	0	0	0	0	64	.50
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	23	78	3004	1706	344	0	859	6.66
Trichocerca cylindrica	0	0	33	0	6	0	7	.05
Trichocera sp.	0	27	60	118	21	1	38	.29
Conochilus unicornis	5	8218	33	130	56	492	1489	11.54
Ploesoma sp.	0	47	57	126	423	0	109	.84
Ascomorpha sp.	0	142	107	169	4	3	71	.55
Gastropus sp.	19	219	1047	629	493	90	416	3.23
Collotheca sp.	0	6	406	1049	671	3	356	2.76
Keratella taurocephala	0	418	1153	71	292	126	343	2.66
Lecane sp.	0	28	0	4	3	0	6	.05
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	23	0	0	0	0	0	4	.03
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	2	1	3	0	1	.01
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	6	0	282	428	1311	0	338	2.62
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	2633	25849	26464	9281	10789	2380	12899	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	59361	385253	299442	204414	248789	110171	217905	
%Cladocera	1.94	29.38	1.08	2.96	5.79	4.57	10.94	
%Calanoida	49.76	38.74	63.05	59.44	57.47	64.21	53.76	
%Cyclopoida	43.86	25.17	27.03	33.05	32.41	29.06	29.38	
%Rotifera	4.44	6.71	8.84	4.54	4.34	2.16	5.92	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 4, 1979 To September 10, 1979
(Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	227	181	93	0	125	.10
Calanoida N2	411	783	140	0	334	.28
Calanoida N3	804	1107	406	0	579	.48
Calanoida N4	814	1103	656	0	643	.54
Calanoida N5	1206	588	465	0	565	.47
Calanoida N6	1322	896	95	124	609	.51
SUB TOTAL	4784	4658	1855	124	2855	2.39
Calanoida (Copepodids) C1-C5						
Calanoida C1	1536	1912	416	0	966	.81
Calanoida C2	5225	1987	1205	0	2104	1.76
Calanoida C3	8919	9165	5116	926	6032	5.05
Calanoida C4	7743	27209	63376	6661	26247	21.97
Calanoida C5	10536	6822	45570	129488	48104	40.26
SUB TOTAL	33959	47095	115683	137075	83453	69.84
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	93	77	40	10	55	.05
Cyclopoida N2	80	234	282	148	186	.16
Cyclopoida N3	49	240	286	104	170	.14
Cyclopoida N4	77	520	587	142	332	.28
Cyclopoida N5	47	117	196	350	178	.15
Cyclopoida N6	101	295	307	159	216	.18
SUB TOTAL	447	1483	1698	913	1135	.95
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	266	340	160	226	248	.21
Cyclopoida C2	323	220	150	265	240	.20
Cyclopoida C3	4261	129	450	772	1403	1.17
Cyclopoida C4	2789	329	261	0	845	.71
Cyclopoida C5	212	258	0	782	313	.26
SUB TOTAL	7851	1276	1021	2045	3048	2.55
Calanoida (Adults) C6						
Diaptomus minutus (m)	9251	6540	3141	0	4733	3.96
Diaptomus minutus (f)	9661	12374	11095	1619	8687	7.27
Epischura lacustris (f)	0	0	0	0	0	0.00
SUB TOTAL	18912	18914	14236	1619	13420	11.23
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	173	39	175	97	.08
Tropocyclops prasinus mexicanus (f)	1375	180	551	0	527	.44
Mesocyclops edax (m)	0	1681	1822	0	876	.73
Mesocyclops edax (f)	6046	7429	2532	0	4002	3.35
Cyclops bicuspidatus thomasi (m)	0	0	171	0	43	.04
Cyclops bicuspidatus thomasi (f)	1004	0	841	0	461	.39
SUB TOTAL	8425	9463	5956	175	6005	5.03

Cladocera						
Diaphanosoma birgei	0	9308	286	2909	3126	2.62
Holopedium gibberum	0	8256	6618	5472	5082	4.25
Daphnia galeata mendotae	0	0	0	0	0	0.00
Bosmina longirostris	1734	768	906	2041	1362	1.14
SUB TOTAL	1734	18312	7810	10422	9570	8.01
TOTAL CRUSTACEA	76112	101201	148259	152373	119486	100.00
%Cladocera	2.28	18.09	5.27	6.84	8.01	
%Calanoida (Nauplii) N1-N6	6.29	4.60	1.25	.08	2.39	
%Calanoida (Copepodida) C1-C5	44.62	46.54	78.03	89.96	69.84	
%Calanoida (Adults) C6	24.85	18.69	9.60	1.06	11.23	
%Cyclopoida (Nauplii) N1-N6	.59	1.47	1.15	.60	.95	
%Cyclopoida (Copepodida) C1-C5	10.32	1.26	.69	1.34	2.55	
%Cyclopoida (Adults) C6	11.07	9.35	4.02	.11	5.03	
Rotifera						
Globular rotifers	2	1	9	6	5	.04
Polyarthra vulgaris	1200	2615	3056	2714	2396	22.26
Filinia longiseta	6	0	0	0	2	.01
Kellicottia longispina	3879	3987	196	324	2097	19.48
Keratella cochlearis	41	0	58	0	25	.23
Keratella hiemalis	4	0	0	0	1	.01
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	0	0	0	0	0.00
Trichocerca cylindrica	0	0	0	0	0	0.00
Trichocera sp.	0	4	102	60	42	.39
Conochilus unicornis	89	401	8	0	125	1.16
Ploesoma sp.	15	693	1103	1634	861	8.00
Asconorpha sp.	7	41	20	0	17	.16
Gastropus sp.	582	1146	1539	830	1024	9.52
Collotheca sp.	0	0	2	0	1	.00
Keratella taurocephala	304	5300	4921	1170	2924	27.16
Lecane sp.	4	2	13	0	5	.04
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	2	0	0	0	1	.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	0	0	1086	3882	1242	11.54
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	6135	14190	12113	10620	10765	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	82247	115391	160372	162993	130251	
%Cladocera	2.11	15.87	4.87	6.39	7.35	
%Calanoida	70.10	61.24	82.17	85.17	76.57	
%Cyclopoida	20.33	10.59	5.41	1.92	7.82	
%Rotifera	7.46	12.30	7.55	6.52	8.26	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 4 , 1979 To September 10, 1979
(Middle layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	42	14	34	8	25	.05
Calanoida N2	74	34	8	0	29	.06
Calanoida N3	88	137	7	0	58	.12
Calanoida N4	33	526	121	0	170	.35
Calanoida N5	275	591	40	0	227	.46
Calanoida N6	153	329	16	0	125	.25
SUB TOTAL	665	1631	226	8	633	1.29
Calanoida (Copepodids) C1-C5						
Calanoida C1	326	508	0	0	209	.42
Calanoida C2	1086	961	35	0	521	1.06
Calanoida C3	2663	5291	62	0	2004	4.08
Calanoida C4	1751	17829	4538	1153	6318	12.86
Calanoida C5	1848	896	4127	16739	5903	12.02
SUB TOTAL	7674	25485	8762	17892	14953	30.45
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	90	21	53	254	105	.21
Cyclopoida N2	245	50	66	326	172	.35
Cyclopoida N3	529	38	156	273	249	.51
Cyclopoida N4	640	183	247	100	293	.60
Cyclopoida N5	354	166	280	176	244	.50
Cyclopoida N6	431	60	102	107	175	.36
SUB TOTAL	2289	518	904	1236	1237	2.52
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	484	129	108	91	203	.41
Cyclopoida C2	797	195	353	53	350	.71
Cyclopoida C3	4928	585	430	312	1564	3.18
Cyclopoida C4	8872	1310	809	593	2896	5.90
Cyclopoida C5	652	3933	3553	7268	3852	7.84
SUB TOTAL	15733	6152	5253	8317	8864	18.05
Calanoida (Adults) C6						
Diaptomus minutus (m)	496	289	0	0	196	.40
Diaptomus minutus (f)	2649	4043	0	1308	2000	4.07
Epischura lacustris (f)	5507	0	0	0	1377	2.80
SUB TOTAL	8652	4332	0	1308	3573	7.28
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	25	23	0	12	.02
Tropocyclops prasinus mexicanus (f)	298	44	0	0	86	.17
Mesocyclops edax (m)	0	165	0	0	41	.08
Mesocyclops edax (f)	3435	639	755	0	1207	2.46
Cyclops bicuspidatus thomasi (m)	312	5760	14362	5198	6408	13.05
Cyclops bicuspidatus thomasi (f)	1543	746	5649	20192	7033	14.32
SUB TOTAL	5588	7379	20789	25390	14787	30.11

Cladocera						
Diaphanosoma birgei	123	5948	0	396	1617	3.29
Holopedium gibberum	4659	3227	0	1326	2303	4.69
Daphnia galeata mendotae	0	2941	825	0	942	1.92
Bosmina longirostris	221	219	98	274	203	.41
SUB TOTAL	5003	12335	923	1996	5064	10.31
TOTAL CRUSTACEA	45604	57832	36857	56147	49110	100.00
%Cladocera	10.97	21.33	2.50	3.55	10.31	
%Calanoida (Nauplii) N1-N6	1.46	2.82	.61	.01	1.29	
%Calanoida (Copepodids) C1-C5	16.83	44.07	23.77	31.87	30.45	
%Calanoida (Adults) C6	18.97	7.49	0.00	2.33	7.28	
%Cyclopoida (Nauplii) N1-N6	5.02	.90	2.45	2.20	2.52	
%Cyclopoida (Copepodids) C1-C5	34.50	10.64	14.25	14.81	18.05	
%Cyclopoida (Adults) C6	12.25	12.76	56.40	45.22	30.11	
Rotifera						
Globular rotifers	0	0	2	0	1	.00
Polyarthra vulgaris	4247	5056	859	961	2781	23.50
Filinia longiseta	0	0	0	0	0	0.00
Kellicottia longispina	3579	4953	4865	1595	3748	31.68
Keratella cochlearis	4	3	80	101	47	.40
Keratella hiemalis	0	1	0	0		.00
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	0	33	289	81	.68
Trichocerca cylindrica	0	0	0	0	0	0.00
Trichocera sp.	0	10	388	152	138	1.16
Conochilus unicornis	23	26	0	5	14	.11
Ploesoma sp.	0	104	105	412	155	1.31
Ascomorpha sp.	27	42	20	0	22	.19
Gastropus sp.	167	1218	666	274	581	4.91
Collotheca sp.	0	9	34	4	12	.10
Keratella taurocephala	48	1040	1474	230	698	5.90
Lecane sp.	0	8	13	0	5	.04
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	60	3	16	.13
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	6	0	6497	7636	3535	29.87
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	8101	12470	15096	11662	11832	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	53705	70302	51953	67809	60942	
%Cladocera	9.32	17.55	1.78	2.94	8.31	
%Calanoida	31.64	44.73	17.30	28.33	31.44	
%Cyclopoida	43.96	19.98	51.87	51.53	40.84	
%Rotifera	15.08	17.74	29.06	17.20	19.42	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/m3)

From June 4 , 1979 To September 10, 1979

(Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	3	4	0	0	2	.01
Calanoida N2	2	3	3	0	2	.01
Calanoida N3	0	39	5	1	11	.04
Calanoida N4	21	23	33	0	19	.06
Calanoida N5	26	44	14	0	21	.07
Calanoida N6	22	11	7	0	10	.03
SUB TOTAL	74	124	62	1	65	.20
Calanoida (Copepodids) C1-C5						
Calanoida C1	45	19	6	0	18	.05
Calanoida C2	0	29	9	5	11	.03
Calanoida C3	120	213	16	0	87	.27
Calanoida C4	0	823	1024	74	480	1.50
Calanoida C5	0	167	305	1095	392	1.23
SUB TOTAL	165	1251	1360	1174	988	3.09
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	9	4	4	17	9	.03
Cyclopoida N2	27	8	10	27	18	.06
Cyclopoida N3	43	26	15	12	24	.08
Cyclopoida N4	103	87	15	11	54	.17
Cyclopoida N5	88	168	14	8	70	.22
Cyclopoida N6	162	102	11	2	69	.22
SUB TOTAL	432	395	69	77	243	.76
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	93	82	9	0	46	.14
Cyclopoida C2	198	158	12	5	93	.29
Cyclopoida C3	1400	520	137	0	514	1.61
Cyclopoida C4	37633	7047	874	38	11398	35.65
Cyclopoida C5	18050	36720	3311	230	14578	45.60
SUB TOTAL	57374	44527	4343	273	26629	83.29
Calanoida (Adults) C6						
Diaptomus minutus (m)	0	137	84	0	55	.17
Diaptomus minutus (f)	0	884	56	31	243	.76
Epischura lacustris (f)	0	0	0	0	0	0.00
SUB TOTAL	0	1021	140	31	298	.93
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (m)	0	0	0	0	0	0.00
Tropocyclops prasinus mexicanus (f)	0	0	12	0	3	.01
Mesocyclops edax (m)	0	0	39	0	10	.03
Mesocyclops edax (f)	0	0	0	109	27	.09
Cyclops bicuspidatus thomasi (m)	481	3002	1183	238	1226	3.83
Cyclops bicuspidatus thomasi (f)	3158	1222	4410	837	2407	7.53
SUB TOTAL	3639	4224	5644	1184	3673	11.49

Cladocera						
Diaphanosoma birgei	0	150	0	30	45	.14
Holopedium gibberum	0	0	54	36	23	.07
Daphnia galeata mendotae	0	0	0	0	0	0.00
Bosmina longirostris	0	10	5	16	8	.02
SUB TOTAL	0	160	59	82	75	.24
TOTAL CRUSTACEA	61684	51702	11677	2822	31971	100.00
%Cladocera	0.00	.31	.51	2.91	.24	
%Calanoida (Nauplii) N1-N6	.12	.24	.53	.04	.20	
%Calanoida (Copepodida) C1-C5	.27	2.42	11.65	41.60	3.09	
%Calanoida (Adults) C6	0.00	1.97	1.20	1.10	.93	
%Cyclopoida (Nauplii) N1-N6	.70	.76	.59	2.73	.76	
%Cyclopoida (Copepodida) C1-C5	93.01	86.12	37.19	9.67	83.29	
%Cyclopoida (Adults) C6	5.90	8.17	48.33	41.96	11.49	
Rotifera						
Globular rotifers	0	0	0	0	0	0.00
Polyarthra vulgaris	3534	8968	370	70	3236	74.94
Filinia longisetae	0	0	0	0	0	0.00
Kellicottia longispina	528	1562	342	91	631	14.61
Keratella cochlearis	0	1	7	7	4	.09
Keratella hiemalis	34	0	0	0	9	.20
Asplanchna priodonta	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	0	9	24	8	.19
Trichocerca cyclindrica	0	0	0	0	0	0.00
Trichocera sp.	0	3	33	25	15	.35
Conochilus unicornis	0	12	0	0	3	.07
Ploesoma sp.	0	14	18	21	13	.31
Ascomorpha sp.	1	3	1	0	1	.03
Gastropus sp.	13	97	54	22	47	1.08
Collotheca sp.	0	0	1	0		.01
Keratella taurocephala	0	70	174	17	65	1.51
Lecane sp.	0	0	0	1		.01
Anuraeopsis fissa	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	1	0	527	615	286	6.62
Ploesoma hudsoni	0	0	0	0	0	0.00
SUB TOTAL	4111	10730	1536	893	4318	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	65795	62432	13213	3715	36289	
%Cladocera	0.00	.26	.45	2.21	.21	
%Calanoida	.36	3.84	11.82	32.46	3.72	
%Cyclopoida	93.39	78.72	76.11	41.29	84.17	
%Rotifera	6.25	17.19	11.62	24.04	11.90	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 21, 1979 To October 22, 1979 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	420	273	201	129	4	0	171	.10
Calanoida N2	1051	488	821	152	0	23	423	.24
Calanoida N3	1270	892	1284	419	0	0	644	.36
Calanoida N4	3940	869	1653	811	0	0	1212	.67
Calanoida N5	8315	1508	1224	519	46	0	1935	1.08
Calanoida N6	1126	1498	1237	119	119	0	683	.38
SUB TOTAL	16122	5528	6420	2149	169	23	5069	2.82
Calanoida (Copepodids) C1-C5								
Calanoida C1	0	1908	2441	422	0	0	795	.44
Calanoida C2	0	6312	2978	1250	2	0	1757	.98
Calanoida C3	0	11703	14670	5195	673	185	5404	3.01
Calanoida C4	0	9495	45862	68939	4808	1525	21772	12.11
Calanoida C5	0	12385	7886	50003	147201	14675	38692	21.52
SUB TOTAL	0	41803	73837	125809	152684	16385	68420	38.06
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	140	193	103	98	402	608	257	.14
Cyclopoida N2	114	354	292	359	508	3530	860	.48
Cyclopoida N3	342	622	305	458	319	4474	1087	.60
Cyclopoida N4	147	821	791	849	247	2813	945	.53
Cyclopoida N5	333	491	452	491	293	1759	637	.35
Cyclopoida N6	554	694	457	421	207	459	465	.26
SUB TOTAL	1630	3175	2400	2676	1976	13643	4250	2.36
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	3925	844	552	278	261	223	1014	.56
Cyclopoida C2	10570	1319	574	516	288	274	2257	1.26
Cyclopoida C3	19104	10590	1236	1018	659	812	5570	3.10
Cyclopoida C4	4753	49296	8687	1945	848	15553	13514	7.52
Cyclopoida C5	0	18915	40912	6865	4915	7784	13232	7.36
SUB TOTAL	38352	80964	51961	10622	6971	24646	35586	19.79
Calanoida (Adults) C6								
Diaptomus minutus (m)	9288	9748	6967	3225	553	31233	10169	5.66
Diaptomus minutus (f)	7856	12310	17301	11151	5889	49080	17265	9.60
Epischura lacustris (f)	0	5507	0	0	0	0	918	.51
SUB TOTAL	17144	27565	24268	14376	6442	80313	28351	15.77
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (m)	0	0	198	63	87	146	82	.05
Tropocyclops prasinus mexicanus (f)	251	1674	224	564	0	1019	622	.35
Mesocyclops edax (m)	0	0	1846	1862	0	0	618	.34
Mesocyclops edax (f)	11590	9482	8068	3287	552	371	5558	3.09
Cyclops bicuspidatus thomasi (m)	4197	793	8762	15717	3506	2720	5949	3.31
Cyclops bicuspidatus thomasi (f)	29515	5706	1969	10901	14167	27872	15022	8.36
SUB TOTAL	45553	17655	21067	32394	18312	32128	27852	15.49

Cladocera								
Diaphanosoma birgei	0	123	15407	286	1668	427	2985	1.66
Holopedium gibberum	0	4659	11464	6673	4109	619	4587	2.55
Daphnia galeata mendotae	0	0	2941	825	3619	0	1231	.68
Bosmina longirostris	263	1955	998	1010	1999	2491	1453	.81
SUB TOTAL	263	6737	30810	8794	11395	3537	10256	5.70
TOTAL CRUSTACEA	119064	183427	210763	196820	197949	170675	179783	100.00
%Cladocera	.22	3.67	14.62	4.47	5.76	2.07	5.70	
%Calanoida (Nauplii) N1-N6	13.54	3.01	3.05	1.09	.09	.01	2.82	
%Calanoida (Copepodids) C1-C5	0.00	22.79	35.03	63.92	77.13	9.60	38.06	
%Calanoida (Adults) C6	14.40	15.03	11.51	7.30	3.25	47.06	15.77	
%Cyclopoida (Nauplii) N1-N6	1.37	1.73	1.14	1.36	1.00	7.99	2.36	
%Cyclopoida (Copepodids) C1-C5	32.21	44.14	24.65	5.40	3.52	14.44	19.79	
%Cyclopoida (Adults) C6	38.26	9.63	10.00	16.46	9.25	18.82	15.49	
Rotifera								
Globular rotifers	0	2	1	12	3	0	3	.01
Polyarthra vulgaris	2549	8982	16640	4286	3862	712	6172	25.41
Filinia longisetae	0	6	0	0	0	0	1	.00
Kellicottia longispina	2061	7987	10503	5405	1861	1037	4809	19.80
Keratella cochlearis	7	47	5	146	220	2093	420	1.73
Keratella hiemalis	147	38	1	0	0	7	32	.13
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	0	1	43	223	13830	2350	9.67
Trichocerca cyclindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	0	1	18	524	290	2000	472	1.94
Conochilus unicornis	0	112	440	8	8	18	98	.40
Ploesoma sp.	0	15	813	1227	1418	0	579	2.38
Ascomorpha sp.	0	35	88	42	0	0	28	.11
Gastropus sp.	22	763	2462	2260	969	0	1079	4.44
Collotheca sp.	0	0	10	39	2	0	9	.03
Keratella taurocephala	0	353	6410	6570	1291	1504	2688	11.07
Lecane sp.	0	4	11	27	17	0	10	.04
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	36	2	0	60	1	0	17	.07
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	0	7	0	8111	10853	12208	5197	21.40
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
Gastropus stylifer	0	0	0	0	0	1961	327	1.35
SUB TOTAL	4822	18354	37403	28760	21018	35370	24288	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	123886	201781	248166	225580	218967	206045	204071	
%Cladocera	.21	3.34	12.42	3.90	5.20	1.72	5.03	
%Calanoida	26.85	37.12	42.12	63.10	72.75	46.94	49.90	
%Cyclopoida	69.04	50.45	30.39	20.26	12.45	34.18	33.17	
%Rotifera	3.89	9.10	15.07	12.75	9.60	17.17	11.90	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 6 , 1980 To October 28, 1980
(Upper layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	1040	189	56	37	0	0	220	.10
Calanoida N2	2493	561	163	196	0	32	574	.27
Calanoida N3	5510	1031	250	149	15	0	1159	.54
Calanoida N4	7785	1185	169	333	24	0	1583	.74
Calanoida N5	4333	1347	466	424	30	0	1100	.52
Calanoida N6	7457	2146	422	116	0	0	1690	.79
SUB TOTAL	28618	6459	1526	1255	69	32	6327	2.96
Calanoida (Copepodida) C1-C5								
Calanoida C1	13981	6249	1818	0	0	0	3675	1.72
Calanoida C2	299	17073	1610	703	70	0	3294	1.54
Calanoida C3	0	90503	22331	215	149	0	18866	8.84
Calanoida C4	0	45325	121211	73453	3691	451	40689	19.07
Calanoida C5	0	7417	10226	117457	213156	1844	58350	27.34
SUB TOTAL	14280	166567	157196	191828	217074	2295	124873	58.52
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	11	57	3	9	56	51	31	.01
Cyclopoida N2	9	91	26	114	373	229	140	.07
Cyclopoida N3	7	110	91	96	624	408	223	.10
Cyclopoida N4	0	82	96	32	629	495	222	.10
Cyclopoida N5	24	44	125	0	381	555	188	.09
Cyclopoida N6	14	0	33	0	34	159	40	.02
SUB TOTAL	65	384	374	251	2097	1897	845	.40
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	299	188	48	67	114	380	183	.09
Cyclopoida C2	640	476	169	120	158	69	272	.13
Cyclopoida C3	146	3483	329	119	315	257	775	.36
Cyclopoida C4	0	6330	1178	901	3013	3119	2424	1.14
Cyclopoida C5	878	0	253	1092	2490	9964	2446	1.15
SUB TOTAL	1963	10477	1977	2299	6090	13789	6099	2.86
Calanoida (Adults) C6								
Diaptomus minutus (m)	27189	2780	780	0	7409	26686	10807	5.06
Diaptomus minutus (f)	30115	19421	3658	2227	15889	38252	18260	8.56
Epischura lacustris (m)	0	4383	0	0	0	0	731	.34
Epischura lacustris (f)	0	0	4371	0	0	0	729	.34
SUB TOTAL	57304	26584	8809	2227	23298	64938	30527	14.31
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	101	94	0	0	0	0	33	.02
Mesocyclops edax (m)	0	0	556	1067	0	0	271	.13
Mesocyclops edax (f)	3148	19691	3569	2595	1804	0	5135	2.41
Cyclops bicuspidatus thomasi (m)	212	0	0	704	1225	8103	1707	.80
Cyclops bicuspidatus thomasi (f)	2599	0	599	1684	3393	4758	2172	1.02
Cyclops vernalis (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	6060	19785	4724	6050	6422	12861	9317	4.37

Cladocera								
Diaphanosoma birgei	0	3369	28626	1430	864	0	5715	2.68
Holopedium gibberum	370	61125	1911	497	8812	5888	13101	6.14
Daphnia galeata mendotae	0	768	8368	2270	6224	16715	5724	2.68
Bosmina longirostris	45	2379	214	1851	17097	3992	4263	2.00
Daphnia catawba	0	2985	8458	5107	10485	12536	6595	3.09
SUB TOTAL	415	70626	47577	11155	43482	39131	35398	16.59
TOTAL CRUSTACEA	108705	300882	222183	215065	298532	134943	213385	100.00
%Cladocera	.38	23.47	21.41	5.19	14.57	29.00	16.59	
%Calanoida (Nauplii) N1-N6	26.33	2.15	.69	.58	.02	.02	2.96	
%Calanoida (Copepodida) C1-C5	13.14	55.36	70.75	89.20	72.71	1.70	58.52	
%Calanoida (Adults) C6	52.72	8.84	3.96	1.04	7.80	48.12	14.31	
%Cyclopoida (Nauplii) N1-N6	.06	.13	.17	.12	.70	1.41	.40	
%Cyclopoida (Copepodida) C1-C5	1.81	3.48	.89	1.07	2.04	10.22	2.86	
%Cyclopoida (Adults) C6	5.57	6.58	2.13	2.81	2.15	9.53	4.37	
Rotifera								
Globular rotifers	0	0	1	12	36	4	9	.06
Polyarthra vulgaris	60	434	1309	340	5217	26035	5566	38.20
Filinia longiseta	0	0	7	0	0	0	1	.01
Kellicottia longispina	245	737	427	428	254	64	359	2.47
Keratella cochlearis	1891	228	1003	746	1897	402	1028	7.05
Keratella hiemalis	0	0	0	0	0	0	0	0.00
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	0	1	9	27	3722	4157	1319	9.05
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	45	0	13	20	166	2005	375	2.57
Conochilus unicornis	10	620	4	0	0	0	106	.73
Ploesoma sp.	0	0	0	3001	0	0	500	3.43
Ascomorpha sp.	7	0	0	0	5	0	2	.01
Gastropus sp.	4089	480	2191	2704	4176	2374	2669	18.32
Collotheca sp.	0	0	0	0	12	3	3	.02
Keratella taurocephala	159	2487	1984	5875	376	274	1859	12.76
Lecane sp.	0	4	5	7	26	0	7	.05
Anuraeopsis fissa	0	0	2	0	0	0		.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	3	1	.00
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	38	0	71	6	1000	3488	767	5.27
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	6544	4991	7026	13166	16887	38809	14571	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	115249	305873	229209	228231	315419	173752	227956	
%Cladocera	.36	23.09	20.76	4.89	13.79	22.52	15.53	
%Calanoida	86.94	65.26	73.09	85.58	76.23	38.71	70.95	
%Cyclopoida	7.02	10.02	3.09	3.77	4.63	16.43	7.13	
%Rotifera	5.68	1.63	3.07	5.77	5.35	22.34	6.39	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 6 , 1980 To October 28, 1980

(Middle layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	217	7	0	0	0	0	37	.04
Calanoida N2	596	6	12	0	0	0	102	.10
Calanoida N3	2120	107	0	0	0	0	371	.35
Calanoida N4	4849	252	0	0	0	0	850	.80
Calanoida N5	2406	524	79	0	0	0	502	.47
Calanoida N6	1558	388	47	0	0	0	332	.31
SUB TOTAL	11746	1284	138	0	0	0	2195	2.07
Calanoida (Copepodida) C1-C5								
Calanoida C1	3989	871	0	0	0	0	810	.76
Calanoida C2	0	2596	85	0	0	0	447	.42
Calanoida C3	0	19425	2675	0	69	0	3695	3.48
Calanoida C4	0	5160	28582	0	0	0	5624	5.30
Calanoida C5	0	236	1739	0	16792	484	3209	3.02
SUB TOTAL	3989	28288	33081	0	16861	484	13784	12.99
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	290	79	21	0	107	9	84	.08
Cyclopoida N2	407	197	80	0	263	35	164	.15
Cyclopoida N3	475	547	297	0	514	103	323	.30
Cyclopoida N4	661	1257	1154	0	453	99	604	.57
Cyclopoida N5	1352	975	943	0	315	113	616	.58
Cyclopoida N6	2695	1225	497	0	38	75	755	.71
SUB TOTAL	5880	4280	2992	0	1690	432	2546	2.40
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	4304	2250	516	0	5	28	1184	1.12
Cyclopoida C2	7139	3659	1644	0	35	69	2091	1.97
Cyclopoida C3	4565	10687	8980	0	98	48	4063	3.83
Cyclopoida C4	759	80157	95012	0	3021	605	29926	28.19
Cyclopoida C5	1255	59698	132131	0	2330	2199	32936	31.03
SUB TOTAL	18022	156451	238283	0	5489	2949	70199	66.14
Calanoida (Adults) C6								
Diaptomus minutus (m)	5086	1311	0	0	561	1972	1488	1.40
Diaptomus minutus (f)	17181	3845	621	0	990	1890	4088	3.85
Epischura lacustris (m)	0	0	0	0	0	0	0	0.00
Epischura lacustris (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	22267	5156	621	0	1551	3862	5576	5.25
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	0	0	0	0	54	0	9	.01
Mesocyclops edax (m)	0	0	0	0	173	0	29	.03
Mesocyclops edax (f)	1219	0	0	0	841	0	343	.32
Cyclops bicuspidatus thomasi (m)	2415	1629	13734	0	856	314	3158	2.98
Cyclops bicuspidatus thomasi (f)	5367	5997	9614	0	2994	-68	3984	3.75
Cyclops vernalis (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	9001	7626	23348	0	4918	246	7523	7.09

Cladocera								
Diaphanosoma birgei	0	0	0	0	239	145	64	.06
Holopedium gibberum	0	11974	0	0	648	93	2119	2.00
Daphnia galeata mendotae	103	0	494	0	1279	979	476	.45
Bosmina longirostris	34	1769	203	0	1230	796	672	.63
Daphnia catawba	0	0	1482	0	2424	2035	990	.93
SUB TOTAL	137	13743	2179	0	5820	4048	4321	4.07
TOTAL CRUSTACEA	71042	216828	300642	0	36329	12021	106144	100.00
%Cladocera	.19	6.34	.72	0.00	16.02	33.67	4.07	
%Calanoida (Nauplii) N1-N6	16.53	.59	.05	0.00	0.00	0.00	2.07	
%Calanoida (Copepodida) C1-C5	5.61	13.05	11.00	0.00	46.41	4.03	12.99	
%Calanoida (Adults) C6	31.34	2.38	.21	0.00	4.27	32.13	5.25	
%Cyclopoida (Nauplii) N1-N6	8.28	1.97	1.00	0.00	4.65	3.59	2.40	
%Cyclopoida (Copepodida) C1-C5	25.37	72.15	79.26	0.00	15.11	24.53	66.14	
%Cyclopoida (Adults) C6	12.67	3.52	7.77	0.00	13.54	2.05	7.09	
Rotifera								
Globular rotifers	0	0	0	0	0	3	1	.00
Polyarthra vulgaris	589	8576	25355	0	12001	6508	8838	38.54
Filinia longiseta	0	0	7	0	0	0	1	.01
Kellicottia longispina	557	1465	2778	0	276	32	851	3.71
Keratella cochlearis	5007	17787	26168	0	1393	189	8424	36.73
Keratella hiemalis	3	0	0	0	0	0	1	.00
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	27	299	4006	0	10537	2131	2833	12.36
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	25	4	95	0	202	1124	242	1.05
Conochilus unicornis	0	13	0	0	5	0	3	.01
Ploesoma sp.	0	0	22	0	0	0	4	.02
Ascomorpha sp.	9	40	16	0	0	1	11	.05
Gastropus sp.	980	1390	747	0	573	922	769	3.35
Collotheca sp.	0	0	0	0	7	0	1	.01
Keratella taurocephala	38	115	205	0	33	84	79	.35
Lecane sp.	3	0	2	0	15	13	6	.02
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	3	0	0	0	3	5	2	.01
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	2155	0	374	0	1523	1151	867	3.78
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	9396	29689	59775	0	26568	12163	22932	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	80438	246517	360417	0	62897	24184	129076	
%Cladocera	.17	5.57	.60	0.00	9.25	16.74	3.35	
%Calanoida	47.24	14.09	9.39	0.00	29.27	17.97	16.70	
%Cyclopoida	40.90	68.29	73.42	0.00	19.23	15.00	62.19	
%Rotifera	11.68	12.04	16.58	0.00	42.24	50.29	17.77	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 6 , 1980 To October 28, 1980
(Lower layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	37	5	0	8	0	0	8	.02
Calanoida N2	145	8	0	0	0	0	26	.08
Calanoida N3	504	10	0	0	0	0	86	.26
Calanoida N4	727	1	1	0	0	0	122	.36
Calanoida N5	140	18	3	0	0	0	27	.08
Calanoida N6	37	44	0	42	0	0	21	.06
SUB TOTAL	1590	86	4	50	0	0	288	.86
Calanoida (Copepodids) C1-C5								
Calanoida C1	106	210	5	0	0	0	54	.16
Calanoida C2	0	275	1	0	1	0	46	.14
Calanoida C3	0	1064	36	156	0	0	209	.62
Calanoida C4	0	216	225	20619	6	0	3511	10.46
Calanoida C5	0	30	0	22727	263	0	3837	11.43
SUB TOTAL	106	1795	267	43502	270	0	7657	22.81
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	24	8	0	127	0	0	27	.08
Cyclopoida N2	188	54	1	130	0	0	62	.19
Cyclopoida N3	349	152	1	252	2	0	126	.38
Cyclopoida N4	484	225	4	218	1	0	155	.46
Cyclopoida N5	746	588	4	319	0	0	276	.82
Cyclopoida N6	892	484	2	241	0	0	270	.80
SUB TOTAL	2683	1511	12	1287	3	0	916	2.73
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	106	318	7	76	0	0	85	.25
Cyclopoida C2	479	953	19	286	0	0	290	.86
Cyclopoida C3	930	2122	129	677	0	0	643	1.92
Cyclopoida C4	199	7618	2646	7523	6	0	2999	8.93
Cyclopoida C5	942	5167	3980	42063	5	0	8693	25.90
SUB TOTAL	2656	16178	6781	50625	11	0	12709	37.87
Calanoida (Adults) C6								
Diaptomus minutus (m)	257	109	0	0	7	0	62	.19
Diaptomus minutus (f)	1537	316	0	0	0	0	309	.92
Epischura lacustris (m)	0	0	0	0	0	0	0	0.00
Epischura lacustris (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	1794	425	0	0	7	0	371	1.11
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	0	0	0	0	0	0	0	0.00
Mesocyclops edax (m)	0	0	0	0	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	0	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	307	629	64	10717	0	0	3286	9.79
Cyclops bicuspidatus thomasi (f)	1450	195	243	32395	12	0	5716	17.03
Cyclops vernalis (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	1757	824	307	51112	12	0	9002	26.82

Cladocera								
Diaphanosoma birgei	0	0	3	0	0	0	1	.00
Holopedium gibberum	0	384	0	0	0	0	64	.19
Daphnia galeata mendotae	0	0	0	582	0	0	97	.29
Bosmina longirostris	0	69	1	97	62	0	38	.11
Daphnia catawba	0	0	0	14514	0	0	2419	7.21
SUB TOTAL	0	453	4	15193	62	0	2619	7.80
TOTAL CRUSTACEA	10586	21272	7375	161769	365	0	33561	100.00
%Cladocera	0.00	2.13	.05	9.39	16.99	0.00	7.80	
%Calanoida (Nauplii) N1-N6	15.02	.40	.05	.03	0.00	0.00	.86	
%Calanoida (Copepodida) C1-C5	1.00	8.44	3.62	26.89	73.97	0.00	22.81	
%Calanoida (Adulta) C6	16.95	2.00	0.00	0.00	1.92	0.00	1.11	
%Cyclopoida (Nauplii) N1-N6	25.34	7.10	.16	.80	.82	0.00	2.73	
%Cyclopoida (Copepodida) C1-C5	25.09	76.05	91.95	31.29	3.01	0.00	37.87	
%Cyclopoida (Adulta) C6	16.60	3.87	4.16	31.60	3.29	0.00	26.82	
Rotifera								
Globular rotifers	0	0	0	3	0	0	1	.00
Polyarthra vulgaris	12	766	417	8080	16	0	1549	15.11
Filinia longiseta	0	0	0	0	0	0	0	0.00
Kellicottia longispina	35	86	40	4535	0	0	783	7.64
Keratella cochlearis	156	1724	539	13261	3	0	2614	25.50
Keratella hiemalis	15	47	0	0	0	0	10	.10
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	11	52	66	25294	27	0	4242	41.38
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	4	2	4	47	0	0	10	.09
Conochilus unicornis	1	18	0	0	0	0	3	.03
Ploesoma sp.	0	0	0	245	0	0	41	.40
Ascomorpha sp.	0	0	0	0	0	0	0	0.00
Gastropus sp.	229	68	12	3913	6	0	705	6.88
Collotheca sp.	0	0	0	0	0	0	0	0.00
Keratella taurocephala	6	34	6	1254	0	0	217	2.11
Lecane sp.	1	1	0	0	0	0		.00
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	1	0	0	0	0	0		.00
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	8	0	5	445	1	0	77	.75
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	479	2798	1089	57077	53	0	10249	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	11065	24070	8464	218846	418	0	43811	
%Cladocera	0.00	1.88	.05	6.94	14.83	0.00	5.98	
%Calanoida	31.54	9.58	3.20	19.90	66.27	0.00	18.98	
%Cyclopoida	64.13	76.91	83.88	47.08	6.22	0.00	51.65	
%Rotifera	4.33	11.62	12.87	26.08	12.68	0.00	23.39	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 6 , 1980 To October 28, 1980 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	1296	202	56	45	0	0	267	.08
Calanoida N2	3235	576	175	196	0	32	702	.20
Calanoida N3	8136	1149	251	149	15	0	1617	.46
Calanoida N4	13361	1439	170	333	24	0	2555	.72
Calanoida N5	6880	1890	549	424	30	0	1629	.46
Calanoida N6	9053	2579	470	158	0	0	2043	.58
SUB TOTAL	41961	7835	1671	1305	69	32	8812	2.50
Calanoida (Copepodida) C1-C5								
Calanoida C1	18077	7331	1824	0	0	0	4539	1.29
Calanoida C2	299	19944	1697	703	79	0	3787	1.07
Calanoida C3	0	110992	25043	372	219	0	22771	6.45
Calanoida C4	0	50702	150020	94072	3698	451	49824	14.11
Calanoida C5	0	7684	11965	140185	230212	2329	65396	18.52
SUB TOTAL	18376	196653	190549	235332	234208	2780	146316	41.44
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	326	145	24	137	164	60	143	.04
Cyclopoida N2	605	342	108	244	637	264	367	.10
Cyclopoida N3	831	810	391	348	1141	511	672	.19
Cyclopoida N4	1145	1564	1255	250	1084	594	982	.28
Cyclopoida N5	2124	1608	1073	319	697	668	1082	.31
Cyclopoida N6	3603	1710	533	241	73	233	1066	.30
SUB TOTAL	8634	6179	3384	1539	3796	2330	4310	1.22
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	4711	2757	573	143	120	408	1452	.41
Cyclopoida C2	8258	5089	1833	407	195	139	2654	.75
Cyclopoida C3	5642	16293	9440	797	413	305	5482	1.55
Cyclopoida C4	958	94106	98838	8425	6041	3725	35349	10.01
Cyclopoida C5	3076	64866	136366	43155	4825	12164	44075	12.48
SUB TOTAL	22645	183111	247050	52927	11594	16741	89011	25.21
Calanoida (Adults) C6								
Diaptomus minutus (m)	32532	4201	780	0	7978	28659	12358	3.50
Diaptomus minutus (f)	48834	23583	4279	2227	16880	40143	22658	6.42
Epischura lacustris (m)	0	4383	0	0	0	0	731	.21
Epischura lacustris (f)	0	0	4371	0	0	0	729	.21
SUB TOTAL	81366	32167	9430	2227	24858	68802	36475	10.33
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	101	94	0	0	54	0	42	.01
Mesocyclops edax (m)	0	0	556	1067	173	0	299	.08
Mesocyclops edax (f)	4368	19691	3569	2595	2646	0	5478	1.55
Cyclops bicuspidatus thomasi (m)	2935	2259	13798	19422	2081	8417	8152	2.31
Cyclops bicuspidatus thomasi (f)	9417	6193	10457	34080	6400	4690	11873	3.36
Cyclops vernalis (f)	0	0	0	0	0	0	0	0.00
SUB TOTAL	16821	28237	28380	57164	11354	13107	25844	7.32

Cladocera								
Diaphanosoma birgei	0	3369	28629	1430	1103	145	5779	1.64
Holopedium gibberum	370	73484	1911	497	9460	5981	15284	4.33
Daphnia galeata mendotae	103	768	8862	2652	7503	17695	6297	1.78
Bosmina longirostris	79	4219	419	1948	18390	4789	4974	1.41
Daphnia catawba	0	2985	9940	19621	12910	14571	10005	2.83
SUB TOTAL	552	84825	49761	26348	49366	43181	42339	11.99
TOTAL CRUSTACEA	190355	539007	530225	376842	335245	146973	353108	100.00
%Cladocera	.29	15.74	9.38	6.99	14.73	29.38	11.99	
%Calanoida (Nauplii) N1-N6	22.04	1.45	.32	.35	.02	.02	2.50	
%Calanoida (Copepodids) C1-C5	9.65	36.48	35.94	62.45	69.86	1.89	41.44	
%Calanoida (Adults) C6	42.74	5.97	1.78	.59	7.41	46.81	10.33	
%Cyclopoida (Nauplii) N1-N6	4.54	1.15	.64	.41	1.13	1.59	1.22	
%Cyclopoida (Copepodids) C1-C5	11.90	33.97	46.59	14.04	3.46	11.39	25.21	
%Cyclopoida (Adults) C6	8.84	5.24	5.35	15.17	3.39	8.92	7.32	
Rotifera								
Globular rotifers	0	0	1	16	36	7	10	.02
Polyarthra vulgaris	662	9776	27083	8420	17235	32543	15953	33.40
Filinia longisetae	0	0	16	0	0	0	3	.01
Kellicottia longispina	838	2290	3246	4963	530	96	1994	4.17
Keratella cochlearis	7055	19740	27710	14008	3294	592	12067	25.26
Keratella hiemalis	19	47	0	0	0	0	11	.02
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	38	353	4082	25321	14287	6289	8395	17.58
Trichocerca cyclindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	75	7	112	68	369	3130	627	1.31
Conochilus unicornis	12	652	4	0	5	0	112	.23
Ploesoma sp.	0	0	22	3247	0	0	545	1.14
Ascomorpha sp.	18	41	17	0	5	1	14	.03
Gastropus sp.	5299	1939	2951	6617	4756	3296	4143	8.67
Collotheca sp.	0	0	0	0	20	3	4	.01
Keratella taurocephala	203	2636	2196	7129	410	359	2156	4.51
Lecane sp.	5	6	8	7	42	13	14	.03
Anuraeopsis fissa	0	0	2	0	0	0		.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	4	0	0	0	3	9	3	.01
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	2202	0	451	452	2526	4640	1712	3.58
Ploesoma hudsoni	0	0	0	0	0	0	0	0.00
SUB TOTAL	16430	37487	67901	70248	43518	50978	47760	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	206785	576494	598126	447090	378763	197951	400868	
%Cladocera	.27	14.71	8.32	5.89	13.03	21.81	10.56	
%Calanoida	68.53	41.05	33.71	53.43	68.42	36.18	47.80	
%Cyclopoida	23.26	37.73	46.61	24.97	7.06	16.26	29.73	
%Rotifera	7.95	6.50	11.35	15.71	11.49	25.75	11.91	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 5 , 1981 To October 5 , 1981
(Upper layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	278	129	118	85	58	0	111	.07
Calanoida N2	746	524	170	352	242	0	339	.23
Calanoida N3	1106	867	281	227	185	34	450	.30
Calanoida N4	1434	467	306	37	88	0	389	.26
Calanoida N5	1970	287	863	0	22	0	524	.35
Calanoida N6	2841	109	437	0	0	0	565	.38
SUB TOTAL	8375	2383	2175	701	595	34	2377	1.58
Calanoida (Copepodids) C1-C5								
Calanoida C1	4376	706	379	0	0	0	910	.61
Calanoida C2	5093	1768	384	0	0	0	1208	.80
Calanoida C3	4323	5415	800	112	0	0	1775	1.18
Calanoida C4	1440	18468	12408	2263	0	0	5763	3.84
Calanoida C5	0	4834	8470	6081	9423	0	4801	3.20
SUB TOTAL	15232	31191	22441	8456	9423	0	14457	9.63
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	31	60	0	12	8	51	27	.02
Cyclopoida N2	34	137	96	121	70	252	118	.08
Cyclopoida N3	20	208	172	221	155	415	199	.13
Cyclopoida N4	167	374	233	510	205	249	290	.19
Cyclopoida N5	137	255	247	371	207	223	240	.16
Cyclopoida N6	209	116	312	227	264	68	199	.13
SUB TOTAL	598	1150	1060	1462	909	1258	1073	.71
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	750	330	403	1038	518	192	539	.36
Cyclopoida C2	1317	280	418	1388	821	253	746	.50
Cyclopoida C3	3361	457	945	1835	2259	986	1641	1.09
Cyclopoida C4	3286	2523	0	4610	5208	15943	5262	3.51
Cyclopoida C5	599	1846	782	6460	3349	3994	2838	1.89
SUB TOTAL	9313	5436	2548	15331	12155	21368	11025	7.35
Calanoida (Adults) C6								
Diaptomus minutus (m)	6695	11606	10872	9197	7245	5442	8510	5.67
Diaptomus minutus (f)	11442	14411	25731	11766	12414	27901	17278	11.51
SUB TOTAL	18137	26017	36603	20963	19659	33343	25787	17.19
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	94	0	0	0	0	0	16	.01
Mesocyclops edax (m)	1735	0	0	12021	13964	1463	4864	3.24
Mesocyclops edax (f)	0	0	5414	3892	9529	17786	6104	4.07
Cyclops bicuspidatus thomasi (m)	198	3860	0	0	0	0	676	.45
Cyclops bicuspidatus thomasi (f)	484	4046	0	0	0	2363	1149	.77
SUB TOTAL	2511	7906	5414	15913	23493	21612	12808	8.54

Cladocera								
Diaphanosoma birgei	446	0	0	0	0	0	74	.05
Holopedium gibberum	32313	138482	9312	6794	61290	30497	46448	30.96
Daphnia galeata mendotae	0	487	0	0	0	0	81	.05
Bosmina longirostris	3144	32308	9263	3215	10219	7779	10988	7.32
Daphnia catawba	3051	44405	7281	6972	60812	27056	24930	16.61
SUB TOTAL	38954	215682	25856	16981	132321	65332	82521	55.00
TOTAL CRUSTACEA	93120	289765	96097	79807	198555	142947	150049	100.00
%Cladocera	41.83	74.43	26.91	21.28	66.64	45.70	55.00	
%Calanoida (Nauplii) N1-N6	8.99	.82	2.26	.88	.30	.02	1.58	
%Calanoida (Copepodids) C1-C5	16.36	10.76	23.35	10.60	4.75	0.00	9.63	
%Calanoida (Adults) C6	19.48	8.98	38.09	26.27	9.90	23.33	17.19	
%Cyclopoida (Nauplii) N1-N6	.64	.40	1.10	1.83	.46	.88	.71	
%Cyclopoida (Copepodids) C1-C5	10.00	1.88	2.65	19.21	6.12	14.95	7.35	
%Cyclopoida (Adults) C6	2.70	2.73	5.63	19.94	11.83	15.12	8.54	
Rotifera								
Polyarthra vulgaris	7290	10120	19	541	2116	1619	3618	22.08
Filinia longiseta	30	40	0	5	0	0	13	.08
Kellicottia longispina	2815	7943	157	109	295	84	1901	11.60
Keratella cochlearis	957	1922	114	29	14	3	507	3.09
Keratella hiemalis	69	108	0	0	0	0	30	.18
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	597	397	0	0	1	38	172	1.05
Trichocera sp.	3	3	0	1	0	7	2	.01
Conochilus unicornis	6	0	0	0	0	0	1	.01
Collotheca sp.	0	0	0	0	1	0		.00
Keratella taurocephala	7470	4840	17109	10011	10743	3905	9013	55.00
Lecane sp.	8	12	4	0	19	22	11	.07
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	11	0	0	0	0	0	2	.01
Polyarthra remata	114	558	313	211	458	719	396	2.41
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0	0	0.00
Ascomorpha saltans	0	0	0	0	0	0	0	0.00
Gastropus stylifer	1502	1060	365	186	566	662	724	4.42
Gastropus hyptopus	0	0	0	0	0	0	0	0.00
SUB TOTAL	20872	27003	18081	11093	14213	7059	16387	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	113992	316768	114178	90900	212768	150006	166435	
%Cladocera	34.17	68.09	22.65	18.68	62.19	43.55	49.58	
%Calanoida	36.62	18.81	53.62	33.14	13.95	22.25	25.61	
%Cyclopoida	10.90	4.57	7.90	35.98	17.18	29.49	14.96	
%Rotifera	18.31	8.52	15.84	12.20	6.68	4.71	9.85	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 5 , 1981 To August 24 , 1981
(Middle layer)

	MAY	JUN	JUL	AUG	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	63	4	25	5	24	.02
Calanoida N2	184	13	0	7	51	.04
Calanoida N3	276	33	28	20	87	.07
Calanoida N4	422	39	94	0	139	.11
Calanoida N5	945	21	200	0	292	.24
Calanoida N6	433	0	0	0	108	.09
SUB TOTAL	2323	110	339	32	701	.58
Calanoida (Copepodida) C1-C5						
Calanoida C1	1372	194	68	0	409	.34
Calanoida C2	896	144	0	0	260	.21
Calanoida C3	937	1116	179	0	558	.46
Calanoida C4	0	2034	10832	2038	3726	3.07
Calanoida C5	0	270	1088	3169	1132	.93
SUB TOTAL	3205	3758	12167	5207	6084	5.01
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	24	14	50	132	55	.05
Cyclopoida N2	42	28	337	821	307	.25
Cyclopoida N3	42	12	521	1751	582	.48
Cyclopoida N4	43	78	421	1103	411	.34
Cyclopoida N5	53	42	229	436	190	.16
Cyclopoida N6	74	14	121	157	92	.08
SUB TOTAL	278	188	1679	4400	1636	1.35
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	293	67	230	112	176	.14
Cyclopoida C2	614	300	191	228	333	.27
Cyclopoida C3	1858	355	670	545	857	.71
Cyclopoida C4	3691	2592	1169	1703	2289	1.89
Cyclopoida C5	1057	2261	824	3703	1961	1.62
SUB TOTAL	7513	5575	3084	6291	5616	4.63
Calanoida (Adults) C6						
Diaptomus minutus (m)	1748	1094	1414	0	1064	.88
Diaptomus minutus (f)	4980	1013	5012	378	2846	2.34
SUB TOTAL	6728	2107	6426	378	3910	3.22
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (f)	66	0	0	0	17	.01
Mesocyclops edax (m)	0	0	0	1977	494	.41
Mesocyclops edax (f)	0	0	3124	4682	1952	1.61
Cyclops bicuspidatus thomasi (m)	760	1204	8100	4535	3650	3.01
Cyclops bicuspidatus thomasi (f)	379	2170	2989	10062	3900	3.21
SUB TOTAL	1205	3374	14213	21256	10012	8.25

Cladocera						
Diaphanosoma birgei	0	0	0	0	0	0.00
Holopedium gibberum	10688	75858	91156	8171	46468	38.28
Daphnia galeata mendotae	0	0	0	0	0	0.00
Bosmina longirostris	3228	12630	27980	1321	11290	9.30
Daphnia catawba	14426	12768	51720	63778	35673	29.39
SUB TOTAL	28342	101256	170856	73270	93431	76.97
TOTAL CRUSTACEA	49594	116368	208764	110834	121390	100.00
%Cladocera	57.15	87.01	81.84	66.11	76.97	
%Calanoida (Nauplii) N1-N6	4.68	.09	.16	.03	.58	
%Calanoida (Copepodida) C1-C5	6.46	3.23	5.83	4.70	5.01	
%Calanoida (Adults) C6	13.57	1.81	3.08	.34	3.22	
%Cyclopoida (Nauplii) N1-N6	.56	.16	.80	3.97	1.35	
%Cyclopoida (Copepodida) C1-C5	15.15	4.79	1.48	5.68	4.63	
%Cyclopoida (Adults) C6	2.43	2.90	6.81	19.18	8.25	
Rotifera						
Polyarthra vulgaris	5226	9918	827	711	4171	31.14
Filinia longisetae	0	0	0	6	2	.01
Kellicottia longispina	2609	6186	3074	2984	3713	27.73
Keratella cochlearis	956	1648	1079	345	1007	7.52
Keratella hiemalis	153	158	0	0	78	.58
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	1033	2054	73	25	796	5.95
Trichocera sp.	2	9	5	3	5	.04
Conochilus unicornis	0	0	0	0	0	0.00
Collotheca sp.	0	0	0	0	0	0.00
Keratella taurocephala	3350	960	3318	1241	2217	16.56
Leosme sp.	0	0	0	2	1	.00
Monommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Polyarthra remata	64	658	1887	212	705	5.27
Ploesoma lenticulare	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0.00
Ascomorpha saltans	0	0	0	0	0	0.00
Gastropus stylifer	946	636	1186	28	699	5.22
Gastropus hyptopus	0	0	0	0	0	0.00
SUB TOTAL	14339	22227	11449	5557	13393	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	63933	138595	220213	116391	134783	
%Cladocera	44.33	73.06	77.59	62.95	69.32	
%Calanoida	19.17	4.31	8.60	4.83	7.93	
%Cyclopoida	14.07	6.59	8.62	27.45	12.81	
%Rotifera	22.43	16.04	5.20	4.77	9.94	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (MG/M^2)

From May 5 , 1981 To October 5 , 1981

(Lower layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	10	0	0	0	0	0	2	.01
Calanoida N2	22	0	2	1	1	0	4	.03
Calanoida N3	47	0	0	0	3	0	8	.06
Calanoida N4	48	0	16	0	0	0	11	.08
Calanoida N5	71	0	0	0	0	0	12	.09
Calanoida N6	98	0	0	0	0	0	16	.12
SUB TOTAL	296	0	18	1	4	0	53	.39
Calanoida (Copepodids) C1-C5								
Calanoida C1	154	0	0	0	0	0	26	.19
Calanoida C2	62	0	0	0	0	0	10	.08
Calanoida C3	145	77	0	0	0	0	37	.27
Calanoida C4	0	560	0	75	0	0	106	.78
Calanoida C5	0	108	520	128	129	0	148	1.09
SUB TOTAL	361	745	520	203	129	0	326	2.41
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	27	23	56	5	19	0	22	.16
Cyclopoida N2	81	63	263	39	241	0	115	.85
Cyclopoida N3	121	205	276	64	428	1	183	1.35
Cyclopoida N4	147	363	242	37	485	1	213	1.57
Cyclopoida N5	74	218	130	16	193	0	105	.78
Cyclopoida N6	62	134	127	10	63	0	66	.49
SUB TOTAL	512	1006	1094	171	1429	2	702	5.18
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	108	202	43	7	20	1	64	.47
Cyclopoida C2	104	232	84	13	20	0	76	.56
Cyclopoida C3	863	193	690	25	55	0	304	2.25
Cyclopoida C4	3284	2292	1578	145	579	20	1316	9.71
Cyclopoida C5	2252	3506	3025	497	1367	5	1775	13.10
SUB TOTAL	6611	6425	5420	687	2041	26	3535	26.09
Calanoida (Adults) C6								
Diaptomus minutus (m)	212	0	0	24	0	0	39	.29
Diaptomus minutus (f)	0	136	381	32	0	0	92	.68
SUB TOTAL	212	136	381	56	0	0	131	.97
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	0	0	0	0	0	0	0	0.00
Mesocyclops edax (m)	0	0	0	45	359	8	69	.51
Mesocyclops edax (f)	0	0	0	0	1232	19	209	1.54
Cyclops bicuspidatus thomasi (m)	1959	1314	1143	75	389	2	814	6.00
Cyclops bicuspidatus thomasi (f)	2202	2943	3619	478	2417	0	1943	14.34
SUB TOTAL	4161	4257	4762	598	4397	29	3034	22.39

Cladocera								
Diaphanosoma birgei	0	0	0	0	0	0	0	0.00
Holopedium gibberum	0	6627	5071	0	326	27	2009	14.82
Daphnia galeata mendotae	0	0	0	0	0	0	0	0.00
Bosmina longirostris	124	4203	4494	57	442	12	1555	11.48
Daphnia catawba	0	4357	1877	637	6349	7	2205	16.27
SUB TOTAL	124	15187	11442	694	7117	46	5768	42.57
TOTAL CRUSTACEA	12277	27756	23637	2410	15117	103	13550	100.00
%Cladocera	1.01	54.72	48.41	28.80	47.08	44.66	42.57	
%Calanoida (Nauplii) N1-N6	2.41	0.00	.08	.04	.03	0.00	.39	
%Calanoida (Copepodida) C1-C5	2.94	2.68	2.20	8.42	.85	0.00	2.41	
%Calanoida (Adults) C6	1.73	.49	1.61	2.32	0.00	0.00	.97	
%Cyclopoida (Nauplii) N1-N6	4.17	3.62	4.63	7.10	9.45	1.94	5.18	
%Cyclopoida (Copepodida) C1-C5	53.85	23.15	22.93	28.51	13.50	25.24	26.09	
%Cyclopoida (Adults) C6	33.89	15.34	20.15	24.81	29.09	28.16	22.39	
Rotifera								
Polyarthra vulgaris	7504	11385	290	20	402	6	3268	22.56
Filinia longiseta	0	0	0	0	0	0	0	0.00
Kellicottia longispina	3304	33778	9601	436	182	0	7884	54.42
Keratella cochlearis	207	4442	1665	29	4	0	1058	7.30
Keratella hiemalis	841	1742	43	0	0	0	438	3.02
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	303	5449	3321	11	4	0	1515	10.46
Trichocera sp.	0	2	3	0	0	0	1	.01
Conochilus unicornis	0	0	0	0	0	0	0	0.00
Collotheca sp.	0	0	0	0	1	0		.00
Keratella taurocephala	279	66	189	59	604	9	201	1.39
Lecane sp.	0	2	0	0	1	0	1	.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	1	0	0	0	0	0		.00
Polyarthra remata	11	105	158	6	11	0	49	.33
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0	0	0.00
Ascomorpha saltans	0	0	0	0	0	0	0	0.00
Gastropus stylifer	103	55	232	1	46	2	73	.51
Gastropus hyptopus	0	0	0	0	0	0	0	0.00
SUB TOTAL	12553	57026	15502	562	1255	17	14486	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	24830	84782	39139	2972	16372	120	28036	
%Cladocera	.50	17.91	29.23	23.35	43.47	38.33	20.57	
%Calanoida	3.50	1.04	2.35	8.75	.81	0.00	1.82	
%Cyclopoida	45.45	13.79	28.81	48.99	48.05	47.50	25.94	
%Rotifera	50.56	67.26	39.61	18.91	7.67	14.17	51.67	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 5, 1981 To October 19, 1981 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	352	134	144	91	58	0	130	.05
Calanoida N2	953	538	172	361	244	10	380	.16
Calanoida N3	1429	901	302	247	188	17	514	.22
Calanoida N4	1906	507	416	37	88	0	492	.21
Calanoida N5	2986	308	1063	0	22	0	730	.31
Calanoida N6	3372	109	437	0	0	0	653	.27
SUB TOTAL	10998	2497	2534	736	600	27	2899	1.21
Calanoida (Copepodids) C1-C5								
Calanoida C1	5903	900	447	0	0	0	1208	.51
Calanoida C2	6052	1912	384	0	0	0	1391	.58
Calanoida C3	5406	6609	979	112	0	0	2184	.91
Calanoida C4	1440	21063	23241	4377	0	0	8354	3.50
Calanoida C5	0	5213	10079	9379	9552	0	5704	2.39
SUB TOTAL	18801	35697	35130	13868	9552	0	18841	7.89
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	83	98	106	149	28	32	83	.03
Cyclopoida N2	158	229	697	983	311	141	420	.18
Cyclopoida N3	184	426	970	2036	584	272	745	.31
Cyclopoida N4	358	816	897	1651	691	169	764	.32
Cyclopoida N5	265	515	606	824	401	193	467	.20
Cyclopoida N6	345	266	560	395	327	67	327	.14
SUB TOTAL	1393	2350	3836	6038	2342	874	2806	1.17
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	1152	600	677	1158	538	96	704	.29
Cyclopoida C2	2036	814	694	1630	842	127	1024	.43
Cyclopoida C3	6083	1006	2306	2406	2314	731	2474	1.04
Cyclopoida C4	10262	7408	2748	6459	5788	9943	7101	2.97
Cyclopoida C5	3909	7614	4632	10661	4716	2481	5669	2.37
SUB TOTAL	23442	17442	11057	22314	14198	13378	16972	7.10
Calanoida (Adults) C6								
Diaptomus minutus (m)	8657	12700	12286	9221	7245	3471	8930	3.74
Diaptomus minutus (f)	16423	15561	31125	12176	12414	15447	17191	7.20
SUB TOTAL	25080	28261	43411	21397	19659	18918	26121	10.93
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	161	0	0	0	0	0	27	.01
Mesocyclops edax (m)	1735	0	0	14044	14323	735	5140	2.15
Mesocyclops edax (f)	0	0	8538	8574	10762	14054	6988	2.92
Cyclops bicuspidatus thomasi (m)	2917	6379	9244	4610	389	1	3923	1.64
Cyclops bicuspidatus thomasi (f)	3067	9160	6608	10540	2417	1181	5496	2.30
SUB TOTAL	7880	15539	24390	37768	27891	15971	21573	9.03

Cladocera								
Diaphanosoma birgei	446	0	0	0	0	0	74	.03
Holopedium gibberum	43001	220968	105541	14965	61617	19332	77571	32.47
Daphnia galeata mendotae	0	487	0	0	0	0	81	.03
Bosmina longirostris	6497	49141	41739	4594	10662	15426	21343	8.93
Daphnia catawba	17477	61531	60879	71387	67161	25321	50626	21.19
SUB TOTAL	67421	332127	208159	90946	139440	60079	149695	62.66
TOTAL CRUSTACEA	155015	433913	328517	193067	213682	109247	238907	100.00
%Cladocera	43.49	76.54	63.36	47.11	65.26	54.99	62.66	
%Calanoida (Nauplii) N1-N6	7.09	.58	.77	.38	.28	.02	1.21	
%Calanoida (Copepodids) C1-C5	12.13	8.23	10.69	7.18	4.47	0.00	7.89	
%Calanoida (Adults) C6	16.18	6.51	13.21	11.08	9.20	17.32	10.93	
%Cyclopoida (Nauplii) N1-N6	.90	.54	1.17	3.13	1.10	.80	1.17	
%Cyclopoida (Copepodids) C1-C5	15.12	4.02	3.37	11.56	6.64	12.25	7.10	
%Cyclopoida (Adults) C6	5.08	3.58	7.42	19.56	13.05	14.62	9.03	
Rotifera								
Polyarthra vulgaris	20021	31425	1137	1272	2519	1267	9607	24.26
Filinia longiseta	30	40	0	11	0	0	14	.03
Kellicottia longispina	8730	47908	12833	3530	478	51	12255	30.95
Keratella cochlearis	2121	8014	2858	404	19	29	2241	5.66
Keratella hiemalis	1064	2009	43	0	0	10	521	1.32
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	1934	7901	3394	37	6	43	2219	5.60
Trichocera sp.	7	15	9	6	1	10	8	.02
Conochilus unicornis	6	0	0	0	0	0	1	.00
Collotheca sp.	0	0	0	0	3	0	1	.00
Keratella taurocephala	11100	5867	20617	11312	11347	2807	10508	26.54
Lecane sp.	8	15	4	2	20	11	10	.03
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	13	0	0	0	0	0	2	.01
Polyarthra remata	190	1322	2359	431	470	864	939	2.37
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0	0	0.00
Ascomorpha saltans	0	0	0	0	0	0	0	0.00
Gastropus stylifer	2552	1752	1784	217	613	695	1269	3.20
Gastropus hyptopus	0	0	0	0	0	0	0	0.00
SUB TOTAL	47776	106268	45038	17222	15476	5787	39594	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	202791	540181	373555	210289	229158	115034	278501	
%Cladocera	33.25	61.48	55.72	43.25	60.85	52.23	53.75	
%Calanoida	27.06	12.30	21.70	17.12	13.01	16.47	17.19	
%Cyclopoida	16.13	6.54	10.52	31.44	19.39	26.27	14.85	
%Rotifera	23.56	19.67	12.06	8.19	6.75	5.03	14.22	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 24, 1982 To October 11, 1982
(Upper layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	84	747	30	6	0	33	150	.10
Calanoida N2	49	1481	273	36	0	52	315	.22
Calanoida N3	163	2202	629	33	0	0	505	.35
Calanoida N4	245	1975	948	37	0	0	534	.37
Calanoida N5	417	814	2320	0	91	0	607	.42
Calanoida N6	0	1023	305	0	0	0	221	.15
SUB TOTAL	958	8242	4505	112	91	85	2332	1.61
Calanoida (Copepodida) C1-C5								
Calanoida C1	0	1252	343	0	0	0	266	.18
Calanoida C2	0	1211	3209	0	0	0	737	.51
Calanoida C3	0	1190	3894	0	0	0	847	.59
Calanoida C4	0	1467	6098	6779	845	0	2532	1.75
Calanoida C5	653	4708	1911	16591	8579	0	5407	3.74
SUB TOTAL	653	9828	15455	23370	9424	0	9788	6.77
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	0	0	5	4	26	97	22	.02
Cyclopoida N2	8	0	99	45	220	264	106	.07
Cyclopoida N3	26	0	380	129	266	667	245	.17
Cyclopoida N4	0	0	197	113	532	1195	340	.23
Cyclopoida N5	0	0	198	147	188	701	206	.14
Cyclopoida N6	161	0	107	255	116	512	192	.13
SUB TOTAL	195	0	986	693	1348	3436	1110	.77
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	723	0	0	484	196	120	254	.18
Cyclopoida C2	1873	104	131	894	289	637	655	.45
Cyclopoida C3	2989	67	250	2469	223	412	1068	.74
Cyclopoida C4	1729	123	247	3671	3432	7849	2842	1.97
Cyclopoida C5	789	204	0	6185	2086	0	1544	1.07
SUB TOTAL	8103	498	628	13703	6226	9018	6363	4.40
Calanoida (Adults) C6								
Diaptomus minutus (m)	614	16030	14429	1964	541	5856	6572	4.55
Diaptomus minutus (f)	2450	24743	21355	2053	2778	2594	9329	6.45
SUB TOTAL	3064	40773	35784	4017	3319	8450	15901	11.00
Cyclopoida (Adults) C6								
Mesocyclops edax (m)	0	0	0	8531	11600	9186	4886	3.38
Mesocyclops edax (f)	0	0	5624	3497	16994	8932	5841	4.04
Cyclops bicuspidatus thomasi (m)	0	0	381	0	1314	1213	485	.34
Cyclops bicuspidatus thomasi (f)	934	0	899	0	1645	5933	1569	1.08
SUB TOTAL	934	0	6904	12028	31553	25264	12781	8.84

Cladocera								
Holopedium gibberum	12482	75739	104983	11174	20984	61438	47800	33.06
Bosmina longirostris	0	1571	4584	18984	34030	29160	14722	10.18
Daphnia catawba	665	28646	97835	67388	8117	0	33775	23.36
SUB TOTAL	13147	105956	207402	97546	63131	90598	96297	66.61
TOTAL CRUSTACEA	27054	165297	271664	151469	115092	136851	144571	100.00
%Cladocera	48.60	64.10	76.35	64.40	54.85	66.20	66.61	
%Calanoida (Nauplii) N1-N6	3.54	4.99	1.66	.07	.08	.06	1.61	
%Calanoida (Copepodids) C1-C5	2.41	5.95	5.69	15.43	8.19	0.00	6.77	
%Calanoida (Adults) C6	11.33	24.67	13.17	2.65	2.88	6.17	11.00	
%Cyclopoida (Nauplii) N1-N6	.72	0.00	.36	.46	1.17	2.51	.77	
%Cyclopoida (Copepodids) C1-C5	29.95	.30	.23	9.05	5.41	6.59	4.40	
%Cyclopoida (Adults) C6	3.45	0.00	2.54	7.94	27.42	18.46	8.84	
Rotifera								
Polyarthra vulgaris	3523	2364	19291	917	1355	7438	5815	39.53
Filinia longiseta	0	12	0	53	0	0	11	.07
Kellicottia longispina	143	47	322	27	9	0	91	.62
Keratella cochlearis	40	147	424	21	14	0	108	.73
Keratella hiemalis	53	4	8	5	0	0	12	.08
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	42	0	38	24	308	3575	665	4.52
Trichocerca cylindrica	0	11	0	0	0	0	2	.01
Trichocera sp.	9	0	0	0	0	0	2	.01
Collotheca sp.	0	0	0	0	0	0	0	0.00
Keratella taurocephala	629	12125	10519	3922	1427	2272	5149	35.00
Cephalodella sp.	0	0	0	0	0	0	0	0.00
Lecane sp.	0	4	17	2	0	0	4	.03
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	42	0	0	0	0	0	7	.05
Ploesoma lenticulare	752	234	510	101	1615	8553	1961	13.33
Gastropus stylifer	0	0	0	0	0	0	0	0.00
	24	345	2294	2195	460	0	886	6.02
SUB TOTAL	5257	15293	33423	7267	5188	21838	14711	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	32311	180590	305087	158736	120280	158689	159282	
%Cladocera	40.69	58.67	67.98	61.45	52.49	57.09	60.46	
%Calanoida	14.47	32.58	18.27	17.32	10.67	5.38	17.59	
%Cyclopoida	28.57	.28	2.79	16.65	32.53	23.77	12.72	
%Rotifera	16.27	8.47	10.96	4.58	4.31	13.76	9.24	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 24, 1982 To October 11, 1982
(Middle layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	15	25	0	3	0	0	7	.01
Calanoida N2	24	170	19	0	0	0	36	.06
Calanoida N3	0	827	32	0	0	3	144	.25
Calanoida N4	0	1384	146	0	0	0	255	.45
Calanoida N5	38	783	93	0	0	0	152	.27
Calanoida N6	0	280	0	0	0	0	47	.08
SUB TOTAL	77	3469	290	3	0	3	640	1.14
Calanoida (Copepodids) C1-C5								
Calanoida C1	0	243	0	0	0	0	41	.07
Calanoida C2	0	363	79	0	0	0	74	.13
Calanoida C3	0	159	279	0	0	0	73	.13
Calanoida C4	0	327	2012	1422	202	0	661	1.17
Calanoida C5	0	0	0	2580	122	0	450	.80
SUB TOTAL	0	1092	2370	4002	324	0	1298	2.30
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	3	7	24	124	65	1	37	.07
Cyclopoida N2	24	35	254	1147	395	2	310	.55
Cyclopoida N3	0	4	251	1197	438	9	317	.56
Cyclopoida N4	39	12	96	423	557	10	190	.34
Cyclopoida N5	0	31	66	284	417	7	134	.24
Cyclopoida N6	19	47	64	101	161	12	67	.12
SUB TOTAL	85	136	755	3276	2033	41	1054	1.87
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	27	51	159	25	16	4	47	.08
Cyclopoida C2	97	48	239	94	12	7	83	.15
Cyclopoida C3	0	141	155	320	54	15	114	.20
Cyclopoida C4	0	784	296	976	254	145	409	.73
Cyclopoida C5	287	142	469	5896	1129	46	1328	2.36
SUB TOTAL	411	1166	1318	7311	1465	217	1981	3.52
Calanoida (Adults) C6								
Diaptomus minutus (m)	0	1702	733	189	0	0	437	.78
Diaptomus minutus (f)	0	2786	485	252	153	0	613	1.09
SUB TOTAL	0	4488	1218	441	153	0	1050	1.86
Cyclopoida (Adults) C6								
Mesocyclops edax (m)	0	0	0	357	0	0	60	.11
Mesocyclops edax (f)	0	0	0	3646	1718	1321	1114	1.98
Cyclops bicuspidatus thomasi (m)	0	553	1373	6530	948	44	1575	2.79
Cyclops bicuspidatus thomasi (f)	0	1352	559	8995	4514	219	2607	4.63
SUB TOTAL	0	1905	1932	19528	7176	1584	5354	9.50

Cladocera								
Holopedium gibberum	0	72206	82033	34212	1186	131	31628	56.13
Bosmina longirostris	0	308	4600	6668	9533	811	3653	6.48
Daphnia catawba	0	8335	32799	16170	806	0	9685	17.19
SUB TOTAL	0	80849	119432	57050	11525	942	44966	79.81
TOTAL CRUSTACEA	573	93105	127315	91611	22676	2787	56345	100.00
%Cladocera	0.00	86.84	93.81	62.27	50.82	33.80	79.81	
%Calanoida (Nauplii) N1-N6	13.44	3.73	.23	.00	0.00	.11	1.14	
%Calanoida (Copepodida) C1-C5	0.00	1.17	1.86	4.37	1.43	0.00	2.30	
%Calanoida (Adults) C6	0.00	4.82	.96	.48	.67	0.00	1.86	
%Cyclopoida (Nauplii) N1-N6	14.83	.15	.59	3.58	8.97	1.47	1.87	
%Cyclopoida (Copepodida) C1-C5	71.73	1.25	1.04	7.98	6.46	7.79	3.52	
%Cyclopoida (Adults) C6	0.00	2.05	1.52	21.32	31.65	56.84	9.50	
Rotifera								
Polyarthra vulgaris	5148	13256	14918	10821	751	113	7501	57.00
Filinia longiseta	0	0	14	8	0	0	4	.03
Kellicottia longispina	41	16	64	31	0	0	25	.19
Keratella cochlearis	16	13	42	3	4	0	13	.10
Keratella hiemalis	549	9	5	0	0	0	94	.71
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	86	56	283	1892	1670	236	704	5.35
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	9	13	25	1	0	0	8	.06
Collotheca sp.	0	0	0	0	0	0	0	0.00
Keratella taurocephala	87	1779	1724	518	85	50	707	5.37
Cephalodella sp.	0	0	0	0	0	0	0	0.00
Lecane sp.	0	0	0	0	0	0	0	0.00
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	5	0	2	0	0	0	1	.01
Polyarthra remata	241	763	435	88	118	216	310	2.36
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Gastropus stylifer	7	260	6611	15856	22	0	3793	28.82
SUB TOTAL	6189	16165	24119	29218	2650	615	13159	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	6762	109270	151434	120829	25326	3402	69504	
%Cladocera	0.00	73.99	78.87	47.22	45.51	27.69	64.70	
%Calanoida	1.14	8.28	2.56	3.68	1.88	.09	4.30	
%Cyclopoida	7.34	2.93	2.64	24.92	42.15	54.14	12.07	
%Rotifera	91.53	14.79	15.93	24.18	10.46	18.08	18.93	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 24, 1982 To October 11, 1982
(Lower layer)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	0	7	0	0	0	0	1	.02
Calanoida N2	9	6	6	0	0	0	4	.05
Calanoida N3	0	13	0	0	0	0	2	.03
Calanoida N4	0	10	11	0	0	0	4	.05
Calanoida N5	15	39	0	0	0	0	9	.13
Calanoida N6	0	0	8	0	0	0	1	.02
SUB TOTAL	24	75	25	0	0	0	21	.29
Calanoida (Copepodids) C1-C5								
Calanoida C1	0	0	0	0	0	0	0	0.00
Calanoida C2	0	0	26	0	0	0	4	.06
Calanoida C3	0	0	32	0	0	0	5	.08
Calanoida C4	0	120	132	0	0	0	42	.59
Calanoida C5	0	0	0	33	0	0	6	.08
SUB TOTAL	0	120	190	33	0	0	57	.81
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	1	5	15	9	0	0	5	.07
Cyclopoida N2	14	30	58	65	2	0	28	.40
Cyclopoida N3	35	39	49	53	6	1	31	.43
Cyclopoida N4	53	42	41	22	8	2	28	.40
Cyclopoida N5	19	33	37	17	1	1	18	.25
Cyclopoida N6	0	20	14	2	1	0	6	.09
SUB TOTAL	122	169	214	168	18	4	116	1.64
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	0	0	33	1	0	0	6	.08
Cyclopoida C2	0	16	18	6	0	1	7	.10
Cyclopoida C3	0	65	35	30	0	0	22	.31
Cyclopoida C4	0	927	969	278	19	28	370	5.24
Cyclopoida C5	117	641	1486	504	15	0	461	6.52
SUB TOTAL	117	1649	2541	819	34	29	865	12.24
Calanoida (Adults) C6								
Diaptomus minutus (m)	0	0	84	0	0	11	16	.22
Diaptomus minutus (f)	0	0	0	0	0	47	8	.11
SUB TOTAL	0	0	84	0	0	58	24	.33
Cyclopoida (Adults) C6								
Mesocyclops edax (m)	0	0	0	30	0	11	7	.10
Mesocyclops edax (f)	0	0	0	73	0	162	39	.55
Cyclops bicuspidatus thomasi (m)	227	668	180	105	0	0	197	2.78
Cyclops bicuspidatus thomasi (f)	0	467	939	196	160	18	297	4.20
SUB TOTAL	227	1135	1119	404	160	191	539	7.63

Cladocera								
Holopedium gibberum	0	9935	13836	1542	168	67	4257	60.23
Bosmina longirostris	0	69	1168	214	482	156	348	4.93
Daphnia catawba	0	0	4279	767	0	0	841	11.90
SUB TOTAL	0	10004	19283	2523	646	223	5447	77.06
TOTAL CRUSTACEA	490	13152	23456	3947	858	505	7068	100.00
%Cladocera	0.00	76.06	82.21	63.92	75.29	44.16	77.06	
%Calanoida (Nauplii) N1-N6	4.90	.57	.11	0.00	0.00	0.00	.29	
%Calanoida (Copepodids) C1-C5	0.00	.91	.81	.84	0.00	0.00	.81	
%Calanoida (Adults) C6	0.00	0.00	.36	0.00	0.00	11.49	.33	
%Cyclopoida (Nauplii) N1-N6	24.90	1.28	.91	4.26	2.10	.79	1.64	
%Cyclopoida (Copepodids) C1-C5	23.88	12.54	10.83	20.75	3.96	5.74	12.24	
%Cyclopoida (Adults) C6	46.33	8.63	4.77	10.24	18.65	37.82	7.63	
Rotifera								
Polyarthra vulgaris	14363	24392	22635	1150	15	16	10429	91.64
Filinia longisetae	0	0	0	1	0	0		.00
Kellicottia longispina	10	3	3	1	0	0	3	.02
Keratella cochlearis	2	4	3	0	0	0	2	.01
Keratella hiemalis	2112	61	8	1	0	0	364	3.20
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	41	120	794	235	52	32	212	1.87
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocerca sp.	5	12	50	0	0	0	11	.10
Collotheca sp.	0	0	0	0	0	0	0	0.00
Keratella taurocephala	8	55	306	39	6	6	70	.62
Cephalodella sp.	0	0	0	0	0	0	0	0.00
Ieoana sp.	0	0	0	0	0	0	0	0.00
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	3	1	0	0	0	0	1	.01
Polyarthra remata	26	116	164	5	9	30	58	.51
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Gastropus stylifer	1	7	383	994	1	0	231	2.03
SUB TOTAL	16571	24771	24346	2426	83	84	11380	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	17061	37923	47802	6373	941	589	18448	
%Cladocera	0.00	26.38	40.34	39.59	68.65	37.86	29.52	
%Calanoida	.14	.51	.63	.52	0.00	9.85	.55	
%Cyclopoida	2.73	7.79	8.10	21.83	22.53	38.03	8.24	
%Rotifera	97.13	65.32	50.93	38.07	8.82	14.26	61.69	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From May 10, 1982 To October 23, 1982 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	69	781	30	9	0	36	154	.08
Calanoida N2	103	1658	299	36	0	46	357	.18
Calanoida N3	173	3044	662	33	0	18	655	.33
Calanoida N4	223	3370	1105	37	0	50	798	.40
Calanoida N5	506	1636	2413	0	91	63	785	.40
Calanoida N6	500	1304	314	0	0	77	366	.18
SUB TOTAL	1574	11793	4823	115	91	290	3114	1.57
Calanoida (Copepodida) C1-C5								
Calanoida C1	27	1495	343	0	0	0	311	.16
Calanoida C2	0	1574	3315	0	0	0	815	.41
Calanoida C3	0	1349	4205	0	0	0	926	.47
Calanoida C4	146	1915	8243	8201	1048	0	3259	1.65
Calanoida C5	653	4708	1911	19205	8702	398	5930	3.00
SUB TOTAL	826	11041	18017	27406	9750	398	11240	5.68
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	13	12	44	138	91	58	59	.03
Cyclopoida N2	61	66	412	1258	618	169	431	.22
Cyclopoida N3	78	44	681	1380	710	402	549	.28
Cyclopoida N4	95	55	335	560	1098	735	480	.24
Cyclopoida N5	43	64	301	449	606	409	312	.16
Cyclopoida N6	213	67	186	359	278	344	241	.12
SUB TOTAL	503	308	1959	4144	3401	2117	2072	1.05
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	480	51	192	512	212	86	256	.13
Cyclopoida C2	1026	169	389	996	301	527	568	.29
Cyclopoida C3	1574	273	441	2821	278	531	986	.50
Cyclopoida C4	1729	1835	1512	4925	3706	4766	3079	1.56
Cyclopoida C5	1079	989	1955	12586	3230	987	3471	1.75
SUB TOTAL	5888	3317	4489	21840	7727	6897	8360	4.23

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Adults) C6								
Diaptomus minutus (m)	494	17733	15248	2153	541	4810	6830	3.45
Diaptomus minutus (f)	2472	27529	21841	2305	2931	3316	10066	5.09
SUB TOTAL	2966	45262	37089	4458	3472	8126	16896	8.54
Cyclopoida (Adults) C6								
Mesocyclops edax (m)	0	0	0	8919	11600	4598	4186	2.12
Mesocyclops edax (f)	0	0	5624	7217	18709	5208	6126	3.10
Cyclops bicuspidatus thomani (m)	696	1222	1936	6635	2263	628	2230	1.13
Cyclops bicuspidatus thomani (f)	1607	1820	2398	9191	6321	3656	4166	2.11
SUB TOTAL	2303	3042	9958	31962	38893	14090	16708	8.44

Cladocera								
Holopedium gibberum	6891	157881	200854	46929	22335	34339	78205	39.53
Bosmina longirostris	0	1948	10354	25868	44046	19819	17006	8.59
Daphnia catawba	423	36982	134914	84327	8924	0	44262	22.37
SUB TOTAL	7314	196811	346122	157124	75305	54158	139472	70.49
TOTAL CRUSTACEA	21374	271574	422457	247049	138639	86076	197862	100.00
%Cladocera	34.22	72.47	81.93	63.60	54.32	62.92	70.49	
%Calanoida (Nauplii) N1-N6	7.36	4.34	1.14	.05	.07	.34	1.57	
%Calanoida (Copepodida) C1-C5	3.86	4.07	4.26	11.09	7.03	.46	5.68	
%Calanoida (Adulte) C6	13.88	16.67	8.78	1.80	2.50	9.44	8.54	
%Cyclopoida (Nauplii) N1-N6	2.35	.11	.46	1.68	2.45	2.46	1.05	
%Cyclopoida (Copepodida) C1-C5	27.55	1.22	1.06	8.84	5.57	8.01	4.23	
%Cyclopoida (Adulte) C6	10.77	1.12	2.36	12.94	28.05	16.37	8.44	
Rotifera								
Polyarthra vulgaris	20336	40013	56841	12889	2123	7613	23303	60.92
Filinia longiseta	0	12	14	63	0	36	21	.05
Kellicottia longispina	158	66	390	60	9	0	114	.30
Keratella cochlearis	30	165	470	24	19	0	118	.31
Keratella hiemalis	4050	76	22	6	0	0	692	1.81
Conochiloides sp.	0	0	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	139	176	1116	2152	2031	2325	1323	3.46
Trichocerca cyclindrica	0	11	0	0	0	0	2	.00
Trichocera sp.	21	25	75	1	0	0	20	.05
Collotheca sp.	0	0	0	0	0	0	0	0.00
Keratella taurocephala	450	13960	12550	4480	1519	1830	5798	15.16
Cephalodella sp.	0	0	0	0	0	0	0	0.00
Lecane sp.	2	4	17	2	0	0	4	.01
Anuraeopsis fissa	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	155	1	2	0	0	9	28	.07
Polyarthra remata	702	1114	1109	195	1743	6637	1917	5.01
Ploesoma lenticulare	0	0	0	0	0	0	0	0.00
Gastropus stylifer	49	612	9289	19047	484	0	4914	12.84
SUB TOTAL	26092	56235	81895	38919	7928	18450	38253	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	47466	327809	504352	285968	146567	104526	236115	
%Cladocera	15.41	60.04	68.63	54.94	51.38	51.81	59.07	
%Calanoida	11.30	20.77	11.88	11.18	9.08	8.43	13.23	
%Cyclopoida	18.32	2.03	3.25	20.26	34.13	22.10	11.49	
%Rotifera	54.97	17.15	16.24	13.61	5.41	17.65	16.20	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 13, 1983 To September 19, 1983
(Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	498	91	98	52	185	.20
Calanoida N2	1681	248	270	117	579	.62
Calanoida N3	2060	575	350	58	761	.81
Calanoida N4	2864	1152	307	128	1113	1.19
Calanoida N5	1680	1253	207	25	791	.85
Calanoida N6	448	436	63	0	237	.25
SUB TOTAL	9231	3755	1295	380	3665	3.92
Calanoida (Copepodids) C1-C5						
Calanoida C1	546	297	17	17	219	.23
Calanoida C2	328	426	26	0	195	.21
Calanoida C3	1153	974	651	0	695	.74
Calanoida C4	1769	2270	7829	0	2967	3.17
Calanoida C5	2966	1269	4404	10752	4848	5.18
SUB TOTAL	6762	5236	12927	10769	8924	9.54
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	10	49	17	25	25	.03
Cyclopoida N2	8	100	142	20	68	.07
Cyclopoida N3	13	149	299	73	134	.14
Cyclopoida N4	36	248	680	186	288	.31
Cyclopoida N5	22	84	464	164	184	.20
Cyclopoida N6	0	0	26	90	29	.03
SUB TOTAL	89	630	1628	558	726	.78
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	35	105	683	282	276	.30
Cyclopoida C2	61	204	1023	479	442	.47
Cyclopoida C3	186	235	2391	1504	1079	1.15
Cyclopoida C4	101	206	3157	3701	1791	1.92
Cyclopoida C5	80	493	924	1801	825	.88
SUB TOTAL	463	1243	8178	7767	4413	4.72
Calanoida (Adults) C6						
Diaptomus minutus (m)	18844	13231	9660	3001	11184	11.96
Diaptomus minutus (f)	20120	13952	8054	4482	11652	12.46
SUB TOTAL	38964	27183	17714	7483	22836	24.42
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	235	401	9214	5555	3851	4.12
Mesocyclops edax (f)	0	2729	4896	2249	2469	2.64
Cyclops bicuspidatus thomasi (m)	0	0	152	0	38	.04
Cyclops bicuspidatus thomasi (f)	0	0	373	224	149	.16
SUB TOTAL	235	3130	14635	8028	6507	6.96

Cladocera						
Diaphanosoma birgei	0	0	295	501	199	.21
Holopedium gibberum	51805	26537	5907	3493	21936	23.46
Bosmina longirostris	1372	494	888	4873	1907	2.04
Daphnia catawba	502	2262	17402	69391	22389	23.95
SUB TOTAL	53679	29293	24492	78258	46431	49.66
TOTAL CRUSTACEA	109423	70470	80869	113243	93501	100.00
%Cladocera	49.06	41.57	30.29	69.11	49.66	
%Calanoida (Nauplii) N1-N6	8.44	5.33	1.60	.34	3.92	
%Calanoida (Copepodids) C1-C5	6.18	7.43	15.99	9.51	9.54	
%Calanoida (Adults) C6	35.61	38.57	21.90	6.61	24.42	
%Cyclopoida (Nauplii) N1-N6	.08	.89	2.01	.49	.78	
%Cyclopoida (Copepodida) C1-C5	.42	1.76	10.11	6.86	4.72	
%Cyclopoida (Adults) C6	.21	4.44	18.10	7.09	6.96	
Rotifera						
Polyarthra vulgaris	1333	1426	746	877	1096	8.81
Filinia longisetae	0	0	0	5	1	.01
Kellicottia longispina	31	0	63	16	28	.22
Keratella cochlearis	46	0	0	0	12	.09
Keratella hiemalis	0	12	0	0	3	.02
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	2	298	57	20	94	.76
Trichocerca cylindrica	15	0	0	0	4	.03
Trichocera sp.	0	4	0	0	1	.01
Keratella taurocephala	15323	13774	6358	2793	9562	76.93
Lecane sp.	0	0	8	7	4	.03
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra remata	366	900	281	78	406	3.27
Gastropus stylifer	345	2490	1514	532	1220	9.82
SUB TOTAL	17461	18904	9027	4328	12430	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	126884	89374	89896	117571	105931	
%Cladocera	42.31	32.78	27.24	66.56	43.83	
%Calanoida	43.31	40.47	35.53	15.85	33.44	
%Cyclopoida	.62	5.60	27.19	13.91	10.99	
%Rotifera	13.76	21.15	10.04	3.68	11.73	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (µg/M^2)

From June 13, 1983 To September 19, 1983
(Middle layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	45	16	6	7	19	.03
Calanoida N2	143	53	42	30	67	.10
Calanoida N3	117	37	34	6	49	.07
Calanoida N4	885	125	0	18	257	.38
Calanoida N5	92	186	50	0	82	.12
Calanoida N6	133	14	0	0	37	.05
SUB TOTAL	1415	431	132	61	510	.75
Calanoida (Copepodida) C1-C5						
Calanoida C1	90	10	0	0	25	.04
Calanoida C2	114	92	0	0	52	.08
Calanoida C3	231	376	337	0	236	.35
Calanoida C4	413	2806	3652	107	1745	2.58
Calanoida C5	186	491	1535	4049	1565	2.31
SUB TOTAL	1034	3775	5524	4156	3622	5.35
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	24	9	62	15	28	.04
Cyclopoida N2	9	62	232	86	97	.14
Cyclopoida N3	0	102	288	196	147	.22
Cyclopoida N4	25	158	323	185	173	.26
Cyclopoida N5	70	131	250	386	209	.31
Cyclopoida N6	28	140	65	261	124	.18
SUB TOTAL	156	602	1220	1129	777	1.15
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	680	567	94	94	359	.53
Cyclopoida C2	986	1499	139	52	669	.99
Cyclopoida C3	1471	2607	574	469	1280	1.89
Cyclopoida C4	1893	3037	8887	3990	4452	6.57
Cyclopoida C5	1742	1039	21935	12496	9303	13.74
SUB TOTAL	6772	8749	31629	17101	16063	23.72
Calanoida (Adults) C6						
Diaptomus minutus (m)	2040	680	786	704	1053	1.55
Diaptomus minutus (f)	1887	1002	914	1196	1250	1.85
SUB TOTAL	3927	1682	1700	1900	2302	3.40
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	406	3886	1442	1434	2.12
Mesocyclops edax (f)	0	799	6148	3521	2617	3.86
Cyclops bicuspidatus thomasi (m)	2807	3905	5423	3083	3805	5.62
Cyclops bicuspidatus thomasi (f)	3088	1252	11151	27783	10819	15.97
SUB TOTAL	5895	6362	26608	35829	18674	27.57

Cladocera						
Diaphanosoma birgei	0	0	0	129	32	.05
Holopedium gibberum	18999	43368	12720	3254	19585	28.92
Bosmina longirostris	848	1041	214	495	650	.96
Daphnia catawba	331	3984	4491	13260	5517	8.14
SUB TOTAL	20178	48393	17425	17138	25784	38.07
TOTAL CRUSTACEA	39377	69994	84238	77314	67731	100.00
%Cladocera	51.24	69.14	20.69	22.17	38.07	
%Calanoida (Nauplii) N1-N6	3.59	.62	.16	.08	.75	
%Calanoida (Copepodids) C1-C5	2.63	5.39	6.56	5.38	5.35	
%Calanoida (Adults) C6	9.97	2.40	2.02	2.46	3.40	
%Cyclopoida (Nauplii) N1-N6	.40	.86	1.45	1.46	1.15	
%Cyclopoida (Copepodids) C1-C5	17.20	12.50	37.55	22.12	23.72	
%Cyclopoida (Adults) C6	14.97	9.09	31.59	46.34	27.57	
Rotifera						
Polyarthra vulgaris	4399	5199	823	1298	2930	37.13
Filinia longiseta	0	0	0	0	0	0.00
Kellicottia longispina	14	6	17	25	16	.20
Keratella cochlearis	2	0	0	0	1	.01
Keratella hiemalis	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	8	64	647	327	262	3.31
Trichocerca cylindrica	0	0	0	0	0	0.00
Trichocera sp.	0	0	0	0	0	0.00
Keratella taurocephala	3604	3039	1502	529	2169	27.48
Lecane sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra remata	1006	1217	197	36	614	7.78
Gastropus stylifer	852	3093	3378	281	1901	24.09
SUB TOTAL	9885	12618	6564	2496	7894	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	49262	82612	90802	79810	75622	
%Cladocera	40.96	58.58	19.19	21.47	34.10	
%Calanoida	12.94	7.13	8.10	7.66	8.51	
%Cyclopoida	26.03	19.02	65.48	67.73	46.96	
%Rotifera	20.07	15.27	7.23	3.13	10.43	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 13, 1983 To September 19, 1983
(Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	14	1	1	0	4	.02
Calanoida N2	27	2	0	2	8	.03
Calanoida N3	12	0	0	0	3	.01
Calanoida N4	36	6	0	0	11	.04
Calanoida N5	38	0	0	0	10	.04
Calanoida N6	0	0	0	0	0	0.00
SUB TOTAL	127	9	1	2	35	.14
Calanoida (Copepodids) C1-C5						
Calanoida C1	19	0	0	0	5	.02
Calanoida C2	39	0	0	0	10	.04
Calanoida C3	34	9	3	0	12	.05
Calanoida C4	0	96	0	0	24	.10
Calanoida C5	96	0	88	23	52	.21
SUB TOTAL	188	105	91	23	102	.41
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	134	134	3	0	68	.28
Cyclopoida N2	307	387	28	1	181	.73
Cyclopoida N3	297	520	45	1	216	.88
Cyclopoida N4	531	664	34	1	308	1.25
Cyclopoida N5	347	291	22	5	166	.68
Cyclopoida N6	286	183	3	4	119	.48
SUB TOTAL	1902	2179	135	12	1057	4.30
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	575	90	1	1	167	.68
Cyclopoida C2	441	461	7	0	227	.92
Cyclopoida C3	1252	1007	70	9	585	2.38
Cyclopoida C4	3094	3941	1302	43	2095	8.51
Cyclopoida C5	5791	6798	1807	108	3626	14.73
SUB TOTAL	11153	12297	3187	161	6700	27.22
Calanoida (Adults) C6						
Diaptomus minutus (m)	182	49	18	7	64	.26
Diaptomus minutus (f)	302	32	11	9	89	.36
SUB TOTAL	484	81	29	16	153	.62
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	171	0	56	3	58	.23
Mesocyclops edax (f)	0	113	275	33	105	.43
Cyclops bicuspidatus thomasi (m)	1698	793	216	32	685	2.78
Cyclops bicuspidatus thomasi (f)	3737	9475	872	543	3657	14.86
SUB TOTAL	5606	10381	1419	611	4504	18.30

Cladocera						
Diaphanosoma birgei	0	0	0	3	1	.00
Holopedium gibberum	36907	9211	690	7	11704	47.56
Bosmina longirostris	183	185	7	8	96	.39
Daphnia catawba	219	584	103	129	259	1.05
SUB TOTAL	37309	9980	800	148	12059	49.00
TOTAL CRUSTACEA	56769	35032	5662	973	24609	100.00
%Cladocera	65.72	28.49	14.13	15.21	49.00	
%Calanoida (Nauplii) N1-N6	.22	.03	.02	.21	.14	
%Calanoida (Copepodida) C1-C5	.33	.30	1.61	2.36	.41	
%Calanoida (Adults) C6	.85	.23	.51	1.64	.62	
%Cyclopoida (Nauplii) N1-N6	3.35	6.22	2.38	1.23	4.30	
%Cyclopoida (Copepodida) C1-C5	19.65	35.10	56.29	16.55	27.22	
%Cyclopoida (Adults) C6	9.88	29.63	25.06	62.80	18.30	
Rotifera						
Polyarthra vulgaris	1397	1762	397	28	896	33.39
Filinia longisetae	0	0	0	0	0	0.00
Kellicottia longispina	3	2	5	0	3	.09
Keratella cochlearis	1	0	0	0		.01
Keratella hiemalis	61	82	0	0	36	1.33
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	522	3564	406	5	1124	41.89
Trichocerca cyclindrica	0	0	0	0	0	0.00
Trichocera sp.	0	0	0	0	0	0.00
Keratella taurocephala	248	150	50	13	115	4.29
Iecane sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Polyarthra remata	127	150	42	1	80	2.98
Gastropus stylifer	48	1059	605	6	430	16.01
SUB TOTAL	2407	6769	1505	53	2684	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	59176	41801	7167	1026	27293	
%Cladocera	63.05	23.88	11.16	14.42	44.19	
%Calanoida	1.35	.47	1.69	4.00	1.06	
%Cyclopoida	31.53	59.47	66.15	76.41	44.92	
%Rotifera	4.07	16.19	21.00	5.17	9.83	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

From June 13, 1983 To October 17, 1983 (Entire water column)

	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6							
Calanoida N1	558	110	106	60	13	169	.08
Calanoida N2	1852	304	312	150	10	526	.23
Calanoida N3	2190	612	385	65	35	657	.29
Calanoida N4	3786	1284	307	146	0	1105	.49
Calanoida N5	1811	1439	257	25	0	706	.31
Calanoida N6	582	451	63	0	0	219	.10
SUB TOTAL	10779	4200	1430	446	58	3383	1.50
Calanoida (Copepodida) C1-C5							
Calanoida C1	656	307	17	17	0	199	.09
Calanoida C2	483	519	26	0	0	206	.09
Calanoida C3	1419	1360	992	0	0	754	.33
Calanoida C4	2183	5173	11482	107	181	3825	1.69
Calanoida C5	3250	1761	6028	14825	749	5323	2.36
SUB TOTAL	7991	9120	18545	14949	930	10307	4.57
Cyclopoida (Nauplii) N1-N6							
Cyclopoida N1	168	193	83	41	142	125	.06
Cyclopoida N2	324	551	403	108	668	411	.18
Cyclopoida N3	310	773	633	272	1066	611	.27
Cyclopoida N4	593	1071	1038	374	771	769	.34
Cyclopoida N5	439	506	736	556	478	543	.24
Cyclopoida N6	315	324	95	356	231	264	.12
SUB TOTAL	2149	3418	2988	1707	3356	2724	1.21
Cyclopoida (Copepodida) C1-C5							
Cyclopoida C1	1291	763	780	378	339	710	.31
Cyclopoida C2	1489	2164	1170	532	748	1221	.54
Cyclopoida C3	2910	3849	3037	1984	1376	2631	1.17
Cyclopoida C4	5090	7184	13347	7734	12736	9218	4.08
Cyclopoida C5	7613	8331	24666	14406	6157	12235	5.42
SUB TOTAL	18393	22291	43000	25034	21356	26015	11.52
Calanoida (Adults) C6							
Diaptomus minutus (m)	21067	13961	10465	3713	8733	11588	5.13
Diaptomus minutus (f)	22310	14988	8980	5689	10881	12570	5.57
SUB TOTAL	43377	28949	19445	9402	19614	24157	10.70
Cyclopoida (Adults) C6							
Mesocyclops edax (m)	406	807	13158	7001	2966	4868	2.16
Mesocyclops edax (f)	0	3641	11321	5804	33273	10808	4.79
Cyclops bicuspidatus thomasi (m)	4505	4699	5792	3116	3339	4290	1.90
Cyclops bicuspidatus thomasi (f)	6826	10728	12397	28551	14192	14539	6.44
SUB TOTAL	11737	19875	42668	44472	53770	34504	15.28

Cladocera							
Diaphanosoma birgei	0	0	295	633	0	186	.08
Holopedium gibberum	107712	79117	19318	6755	141949	70970	31.43
Bosmina longirostris	2404	1721	1110	5377	6823	3487	1.54
Daphnia catawba	1053	6831	21996	82781	137517	50036	22.16
SUB TOTAL	111169	87669	42719	95547	286289	124679	55.22
TOTAL CRUSTACEA	205595	175522	170795	191557	385373	225768	100.00
%Cladocera	54.07	49.95	25.01	49.88	74.29	55.22	
%Calanoida (Nauplii) N1-N6	5.24	2.39	.84	.23	.02	1.50	
%Calanoida (Copepodids) C1-C5	3.89	5.20	10.86	7.80	.24	4.57	
%Calanoida (Adults) C6	21.10	16.49	11.38	4.91	5.09	10.70	
%Cyclopoida (Nauplii) N1-N6	1.05	1.95	1.75	.89	.87	1.21	
%Cyclopoida (Copepodids) C1-C5	8.95	12.70	25.18	13.07	5.54	11.52	
%Cyclopoida (Adults) C6	5.71	11.32	24.98	23.22	13.95	15.28	
Rotifera							
Globular rotifers	0	0	0	0	6	1	.01
Polyarthra vulgaris	7129	8388	1966	2204	9717	5881	28.17
Filinia longisetae	0	0	0	5	0	1	.00
Kellicottia longispina	49	9	86	42	151	67	.32
Keratella cochlearis	50	0	0	0	179	46	.22
Keratella hiemalis	61	94	0	0	9	33	.16
Monostyla sp.	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	533	3927	1110	353	237	1232	5.90
Trichocerca cylindrica	15	0	0	0	0	3	.01
Trichocera sp.	0	5	0	0	2	1	.01
Collotheca sp.	0	0	0	0	7	1	.01
Keratella taurocephala	19176	16964	7911	3336	938	9665	46.29
Lecane sp.	0	0	8	7	9	5	.02
Synchaeta sp.	0	0	0	0	10	2	.01
Pompholyx sp.	0	0	0	0	0	0	0.00
Polyarthra remata	1500	2268	521	115	109	1023	4.90
Gastropus stylifer	1246	6644	5497	820	372	2916	13.97
SUB TOTAL	29759	38299	17099	6882	12346	20877	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	235354	213821	187894	198439	397719	246645	
%Cladocera	47.23	41.00	22.74	48.15	71.98	50.55	
%Calanoida	26.41	19.77	20.98	12.50	5.18	15.34	
%Cyclopoida	13.72	21.32	47.18	35.89	19.73	25.64	
%Rotifera	12.64	17.91	9.10	3.47	3.10	8.46	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ·ABUNDANCE (#/M^2)

From May 6 , 1980 To October 28, 1980 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	39282	6131	1723	1384	0	0	8087	1.74
Calanoida N2	62216	11089	3382	3786	0	633	13518	2.91
Calanoida N3	95725	13522	2955	1758	187	0	19025	4.09
Calanoida N4	104388	11242	1334	2604	187	0	19959	4.29
Calanoida N5	42210	11599	3370	2604	187	0	9995	2.15
Calanoida N6	45959	13093	2386	805	0	0	10374	2.23
SUB TOTAL	389780	66676	15150	12941	561	633	80957	17.40
Calanoida (Copepodida) C1-C5								
Calanoida C1	64794	26277	6540	0	0	0	16269	3.50
Calanoida C2	721	47943	4080	1691	192	0	9105	1.96
Calanoida C3	0	152044	34306	510	301	0	31194	6.71
Calanoida C4	0	33801	100013	62715	2465	301	33216	7.14
Calanoida C5	0	3765	5862	68684	112793	1141	32041	6.89
SUB TOTAL	65515	263830	150801	133600	115751	1442	121823	26.19
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	20437	9081	1548	8585	10295	3800	8958	1.93
Cyclopoida N2	23306	13176	4180	9413	24521	10163	14127	3.04
Cyclopoida N3	20285	19768	9545	8508	27834	12470	16402	3.53
Cyclopoida N4	20460	27943	22423	4479	19364	10623	17549	3.77
Cyclopoida N5	30783	23309	15556	4629	10105	9689	15679	3.37
Cyclopoida N6	42896	20362	6348	2876	870	2781	12689	2.73
SUB TOTAL	158167	113639	59600	38490	92989	49526	85402	18.36
Cyclopoida (Copepodida) C1-C5								
Cyclopoida C1	39588	23176	4816	1208	1015	3436	12207	2.62
Cyclopoida C2	39515	24349	8772	1949	935	665	12698	2.73
Cyclopoida C3	13897	40131	23251	1965	1019	752	13503	2.90
Cyclopoida C4	1241	121899	128028	10913	7825	4825	45789	9.84
Cyclopoida C5	2494	52608	110597	35000	3913	9865	35746	7.68
SUB TOTAL	96735	262163	275464	51035	14707	19543	119941	25.78
Calanoida (Adults) C6								
Diaptomus minutus (m)	16943	2188	406	0	4155	14926	6436	1.38
Diaptomus minutus (f)	19135	9241	1677	872	6614	15730	8878	1.91
Epischura lacustris (m)	0	313	0	0	0	0	52	.01
Epischura lacustris (f)	0	0	205	0	0	0	34	.01
SUB TOTAL	36078	11742	2288	872	10769	30656	15401	3.31
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	178	166	0	0	95	0	73	.02
Mesocyclops edax (m)	0	0	308	590	95	0	166	.04
Mesocyclops edax (f)	497	2241	406	295	301	0	623	.13
Cyclops bicuspidatus thomasi (m)	2460	1893	11566	16280	1744	7055	6833	1.47
Cyclops bicuspidatus thomasi (f)	3227	2122	3583	11679	2193	1607	4069	.87
Cyclops vernalis (f)	66	0	0	0	0	0	11	.00
SUB TOTAL	6428	6422	15863	28844	4428	8662	11775	2.53

Cladocera								
Diaphanosoma birgei	0	2241	19903	590	1500	118	4059	.87
Holopedium gibberum	534	10288	205	281	2328	1616	2542	.55
Daphnia galeata mendotae	138	166	2372	1424	3939	4196	2039	.44
Bosmina longirostris	319	10587	1210	8125	61233	9606	15180	3.26
Daphnia catawba	0	1097	3093	9080	6545	3610	3904	.84
Daphinia g.m. (x thorata)	0	0	0	9080	4100	0	2197	.47
SUB TOTAL	991	24379	26783	28580	79645	19146	29921	6.43
TOTAL CRUSTACEA	753694	748851	545949	294362	318850	129608	465219	100.00
%Cladocera	.13	3.26	4.91	9.71	24.98	14.77	6.43	
%Calanoida (Nauplii) N1-N6	51.72	8.90	2.77	4.40	.18	.49	17.40	
%Calanoida (Copepodids) C1-C5	8.69	35.23	27.62	45.39	36.30	1.11	26.19	
%Calanoida (Adults) C6	4.79	1.57	.42	.30	3.38	23.65	3.31	
%Cyclopoida (Nauplii) N1-N6	20.99	15.18	10.92	13.08	29.16	38.21	18.36	
%Cyclopoida (Copepodids) C1-C5	12.83	35.01	50.46	17.34	4.61	15.08	25.78	
%Cyclopoida (Adults) C6	.85	.86	2.91	9.80	1.39	6.68	2.53	
Rotifera								
Globular rotifers	0	156	205	3306	7331	1568	2094	.06
Polyarthra vulgaris	21383	315386	873663	271633	555986	1049794	514641	15.41
Filinia longisetae	0	0	433	0	21	0	76	.00
Kellicottia longispina	52410	143163	202935	310238	33184	6041	124662	3.73
Keratella cochlearis	783978	2193335	3078990	1556502	366013	65813	1340772	40.15
Keratella hiemalis	693	1708	0	0	0	0	400	.01
Asplanchna priodonta	0	0	0	0	0	0	0	0.00
Kellicottia bostoniensis	3206	29451	340248	2110146	1190637	524090	699630	20.95
Trichocerca cylindrica	0	0	0	0	0	0	0	0.00
Trichocera sp.	12653	1218	18755	11369	61616	521788	104567	3.13
Conochilus unicornis	601	32641	213	0	255	0	5618	.17
Ploesoma sp.	0	0	487	70597	0	0	11847	.35
Ascomorpha sp.	1295	2929	1227	0	384	118	992	.03
Gastropus sp.	311734	114095	173618	389276	279792	193918	243739	7.30
Collotheca sp.	0	0	42	0	3426	602	678	.02
Keratella taurocephala	13571	175788	146413	475331	27337	23936	143729	4.30
lecane sp.	205	223	293	281	1519	474	499	.01
Anuraeopsis fissa	0	0	410	0	.0	0	68	.00
Colurella sp.	0	0	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0	0	0.00
Synchaeta sp.	373	0	0	0	255	815	241	.01
Pompholyx sp.	0	0	0	0	0	0	0	0.00
Polyarthra dolicoptera	0	0	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0	0	0.00
Polyarthra remata	183543	0	37649	37727	210530	386680	142688	4.27
Ploesoma hudsoni	0	0	2163	2537	7603	3610	2652	.08
SUB TOTAL	1385645	3010093	4877744	5238943	2745889	2779247	3339594	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	2139339	3758944	5423693	5533305	3064739	2908855	3804813	
%Cladocera	.05	.65	.49	.52	2.60	.66	.79	
%Calanoida	22.97	9.10	3.10	2.66	4.15	1.13	5.73	
%Cyclopoida	12.22	10.17	6.47	2.14	3.66	2.67	5.71	
%Rotifera	64.77	80.08	89.93	94.68	89.60	95.54	87.77	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^2)

From May 5 , 1981 To October 19, 1981 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6								
Calanoida N1	10669	4062	4376	2768	1784	0	3943	1.73
Calanoida N2	18337	10356	3323	6947	4699	195	7310	3.21
Calanoida N3	16821	10608	3561	2914	2221	202	6055	2.66
Calanoida N4	14891	3960	3255	295	687	0	3848	1.69
Calanoida N5	18321	1893	6526	0	137	0	4480	1.97
Calanoida N6	17121	553	2219	0	0	0	3316	1.45
SUB TOTAL	96160	31432	23260	12924	9528	397	28950	12.70
Calanoida (Copepodids) C1-C5								
Calanoida C1	21158	3229	1604	0	0	0	4332	1.90
Calanoida C2	14549	4597	924	0	0	0	3345	1.47
Calanoida C3	7405	9054	1342	154	0	0	2993	1.31
Calanoida C4	960	14042	15494	2918	0	0	5569	2.44
Calanoida C5	0	2554	4938	4595	4680	0	2795	1.23
SUB TOTAL	44072	33476	24302	7667	4680	0	19033	8.35
Cyclopoida (Nauplii) N1-N6								
Cyclopoida N1	5235	6175	6664	9373	1776	2014	5206	2.28
Cyclopoida N2	6094	8826	26811	37810	11996	5461	16166	7.09
Cyclopoida N3	4489	10413	23664	49681	14263	6647	18193	7.98
Cyclopoida N4	6398	14571	16032	29495	12347	3022	13644	5.99
Cyclopoida N5	3853	7469	8794	11952	5812	2798	6780	2.97
Cyclopoida N6	4114	3167	6676	4707	3895	798	3893	1.71
SUB TOTAL	30183	50621	88641	143018	50089	20740	63882	28.03
Cyclopoida (Copepodids) C1-C5								
Cyclopoida C1	9686	5049	5693	9735	4526	814	5917	2.60
Cyclopoida C2	9744	3894	3321	7802	4032	609	4900	2.15
Cyclopoida C3	14984	2479	5681	5928	5700	1801	6096	2.67
Cyclopoida C4	13293	9597	3560	8366	7497	12880	9199	4.04
Cyclopoida C5	3170	6175	3757	8646	3825	2012	4598	2.02
SUB TOTAL	50877	27194	22012	40477	25580	18116	30709	13.47

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Adults) C6								
Diaptomus minutus (m)	4509	6614	6399	4802	3773	1808	4651	2.04
Diaptomus minutus (f)	6435	6097	12196	4771	4864	6052	6736	2.96
SUB TOTAL	10944	12711	18595	9573	8637	7860	11387	5.00
Cyclopoida (Adults) C6								
Tropocyclops prasinus mexicanus (f)	282	0	0	0	0	0	47	.02
Mesocyclops edax (m)	960	0	0	7772	7926	407	2844	1.25
Mesocyclops edax (f)	0	0	971	976	1225	1599	795	.35
Cyclops bicuspidatus thomasi (m)	2445	5347	7749	3864	326	1	3289	1.44
Cyclops bicuspidatus thomasi (f)	1051	3139	2264	3612	828	404	1883	.83
SUB TOTAL	4738	8486	10984	16224	10305	2411	8858	3.89

Cladocera								
Diaphanosoma birgei	320	0	0	0	0	0	53	.02
Holopedium gibberum	7859	31419	12552	1917	10618	4837	11534	5.06
Daphnia galeata mendotae	0	221	0	0	0	0	37	.02
Bosmina longirostris	15959	79080	72120	13152	29315	30645	40045	17.57
Daphnia catawba	2170	18874	15725	12694	24343	6228	13339	5.85
Chydorus sphaericus	320	0	0	0	0	0	53	.02
Leptodora kindtii	0	0	0	295	0	0	49	.02
SUB TOTAL	26628	129594	100397	28058	64276	41710	65111	28.57
TOTAL CRUSTACEA	263602	293518	288191	257941	173095	91234	227930	100.00
%Cladocera	10.10	44.15	34.84	10.88	37.13	45.72	28.57	
%Calanoida (Nauplii) N1-N6	36.48	10.71	8.07	5.01	5.50	.44	12.70	
%Calanoida (Copepodids) C1-C5	16.72	11.41	8.43	2.97	2.70	0.00	8.35	
%Calanoida (Adults) C6	4.15	4.33	6.45	3.71	4.99	8.62	5.00	
%Cyclopoida (Nauplii) N1-N6	11.45	17.25	30.76	55.45	28.94	22.73	28.03	
%Cyclopoida (Copepodida) C1-C5	19.30	9.26	7.64	15.69	14.78	19.86	13.47	
%Cyclopoida (Adults) C6	1.80	2.89	3.81	6.29	5.95	2.64	3.89	
Rotifera								
Polyarthra vulgaris	645856	1013731	36682	41052	81267	40886	309912	12.80
Filinia longisetae	830	1082	0	316	0	0	371	.02
Kellicottia longispina	545670	2994308	802088	220651	29919	3222	765976	31.63
Keratella cochlearis	235667	890487	317623	44914	2181	3329	249038	10.28
Keratella hiemalis	38003	71781	1552	0	0	390	18621	.77
Conochiloides sp.	0	28928	21285	14921	1092	4126	11725	.48
Monostyla sp.	233	515	527	611	477	202	428	.02
Kellicottia bostoniensis	161174	658470	282896	3134	546	3592	184969	7.64
Trichocera sp.	1298	2560	1650	1055	237	1782	1430	.06
Conochilus unicornis	320	0	0	0	0	0	53	.00
Collotheca sp.	0	160	0	0	522	0	114	.00
Keratella taurocephala	740040	391153	1374504	754158	756522	187184	700594	28.93
Lecane sp.	320	557	154	86	723	404	374	.02
Monommata sp.	0	0	0	1087	543	0	272	.01
Synchaeta sp.	1149	0	0	0	0	0	192	.01
Polyarthra remata	15884	110229	196635	35924	39180	72017	78312	3.23
Ploesoma lenticulare	873	2355	9216	2475	0	0	2487	.10
Ascomorpha ecaudis	387	347	0	0	0	0	122	.01
Ascomorpha saltans	10754	0	0	0	0	0	1792	.07
Gastropus stylifer	170198	116804	118974	14466	40874	46375	84615	3.49
Gastropus hyptopus	95	20268	38739	2452	0	0	10259	.42
SUB TOTAL	2568751	6303735	3202525	1137302	954083	363509	2421651	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	2832353	6597249	3490716	1395243	1127178	454743	2649580	
%Cladocera	.94	1.96	2.88	2.01	5.70	9.17	2.46	
%Calanoida	5.34	1.18	1.90	2.16	2.03	1.82	2.24	
%Cyclopoida	3.03	1.31	3.48	14.31	7.63	9.07	3.90	
%Rotifera	90.69	95.55	91.74	81.51	84.64	79.94	91.40	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^2)

From May 10, 1982 To October 23, 1982 (Entire water column)

	MAY	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoids (Nauplii) N1-N6								
Calanoids N1	2100	23689	924	300	0	1100	4686	2.56
Calanoids N2	1982	31892	5759	710	0	899	6874	3.75
Calanoids N3	2035	35812	7789	398	0	217	7709	4.20
Calanoids N4	1742	26328	8637	295	0	390	6232	3.40
Calanoids N5	3106	10042	14807	0	563	390	4818	2.63
Calanoids N6	2540	6620	1596	0	0	390	1858	1.01
SUB TOTAL	13505	134383	39512	1703	563	3386	32175	17.55
Calanoids (Copepodids) C1-C5								
Calanoids C1	97	5361	1232	0	0	0	1115	.61
Calanoids C2	0	3784	7969	0	0	0	1959	1.07
Calanoids C3	0	1849	5760	0	0	0	1268	.69
Calanoids C4	97	1276	5495	5467	698	0	2172	1.18
Calanoids C5	320	2306	936	9409	4263	195	2905	1.58
SUB TOTAL	514	14576	21392	14876	4961	195	9419	5.14
Cyclopoids (Nauplii) N1-N6								
Cyclopoids N1	848	770	2790	8674	5735	3677	3749	2.04
Cyclopoids N2	2379	2538	15853	48391	23795	6520	16579	9.04
Cyclopoids N3	1922	1077	16623	33660	17330	9829	13407	7.31
Cyclopoids N4	1707	992	5992	10008	19613	13140	8575	4.68
Cyclopoids N5	631	930	4375	6517	8793	5931	4530	2.47
Cyclopoids N6	2543	806	2215	4278	3317	4105	2877	1.57
SUB TOTAL	10030	7113	47848	111528	78583	43202	49717	27.12
Cyclopoids (Copepodids) C1-C5								
Cyclopoids C1	4037	436	1616	4304	1787	725	2151	1.17
Cyclopoids C2	4910	810	1863	4767	1443	2524	2720	1.48
Cyclopoids C3	3876	673	1086	6948	685	1309	2430	1.33
Cyclopoids C4	2240	2377	1959	6380	4801	6173	3988	2.18
Cyclopoids C5	875	802	1586	10208	2620	800	2815	1.54
SUB TOTAL	15938	5098	8110	32607	11336	11531	14103	7.69
Calanoids (Adults) C6								
Diaptomus minutus (m)	257	9236	7941	1121	281	2505	3557	1.94
Diaptomus minutus (f)	968	10787	8558	903	1148	1299	3944	2.15
SUB TOTAL	1225	20023	16499	2024	1429	3804	7501	4.09
Cyclopoids (Adults) C6								
Mesocyclops edax (m)	0	0	0	4935	6419	2545	2317	1.26
Mesocyclops edax (f)	0	0	640	821	2129	592	697	.38
Cyclops bicuspidatus thomasi (m)	584	1024	1622	5562	1897	527	1869	1.02
Cyclops bicuspidatus thomasi (f)	550	623	822	3150	2166	1252	1427	.78
SUB TOTAL	1134	1647	3084	14468	12611	4916	6310	3.44

Cladocera								
Holopedium gibberum	2382	42468	31781	6888	4084	7106	15778	8.61
Bosmina longirostris	0	5129	23744	58923	100600	37154	37592	20.50
Daphnia catawba	355	10176	34133	17359	2390	0	10736	5.86
SUB TOTAL	2737	57773	89618	83170	107074	44260	64105	34.97
TOTAL CRUSTACEA	45083	240613	226063	260376	216557	111294	183331	100.00
%Cladocera	6.07	24.01	39.64	31.94	49.44	39.77	34.97	
%Calanoida (Nauplii) N1-N6	29.96	55.85	17.48	.65	.26	3.04	17.55	
%Calanoida (Copepodida) C1-C5	1.14	6.06	9.46	5.71	2.29	.18	5.14	
%Calanoida (Adults) C6	2.72	8.32	7.30	.78	.66	3.42	4.09	
%Cyclopoida (Nauplii) N1-N6	22.25	2.96	21.17	42.83	36.29	38.82	27.12	
%Cyclopoida (Copepodida) C1-C5	35.35	2.12	3.59	12.52	5.23	10.36	7.69	
%Cyclopoida (Adults) C6	2.52	.68	1.36	5.56	5.82	4.42	3.44	
Rotifera								
Polyarthra vulgaris	656013	1290750	1833601	415803	68488	245591	751708	41.60
Filinia longiseta	0	332	380	1708	0	977	566	.03
Kellicottia longispina	9912	4162	24402	3781	581	0	7140	.40
Keratella cochlearis	3416	18356	52324	2696	2204	0	13166	.73
Keratella hiemalis	148662	2716	797	243	0	0	24736	1.37
Conochiloides sp.	32629	18884	5253	51201	980	0	18158	1.00
Monostyla sp.	0	115	542	119	0	0	129	.01
Kellicottia bostoniensis	11595	14738	93007	179334	169293	193791	110293	6.10
Trichocerca cylindrica	0	166	0	0	0	0	28	.00
Trichocera sp.	3513	4293	12625	286	0	0	3453	.19
Collotheca sp.	97	0	0	102	0	0	33	.00
Keratella taurocephala	30038	930690	836721	298700	101271	122013	386572	21.39
Cephalodella sp.	97	166	190	118	0	0	95	.01
Ieosne sp.	97	166	616	102	0	0	164	.01
Anuraeopsis fissa	0	0	0	118	0	0	20	.00
Noncmata sp.	0	0	0	933	0	5061	999	.06
Synchaeta sp.	12985	160	191	0	0	781	2353	.13
Polyarthra remata	58542	92908	92497	16327	145256	553122	159775	8.84
Ploesoma lenticulare	0	436	0	0	0	0	73	.00
Gastropus stylifer	3329	40851	619294	1269829	32308	0	327602	18.13
SUB TOTAL	966925	2419889	3572440	2241400	520381	1121336	1807062	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	1012008	2660502	3798503	2501776	736938	1232630	1990393	
%Cladocera	.27	2.17	2.36	3.32	14.53	3.59	3.22	
%Calanoida	1.51	6.35	2.04	.74	.94	.60	2.47	
%Cyclopoida	2.68	.52	1.55	6.34	13.91	4.84	3.52	
%Rotifera	95.55	90.96	94.05	89.59	70.61	90.97	90.79	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^2)

From June 13, 1983 To October 17, 1983 (Entire water column)

	JUN	JUL	AUG	SEP	OCT	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6							
Calanoida N1	16935	3337	3237	1825	420	5151	2.53
Calanoida N2	35626	5853	6016	2891	210	10119	4.97
Calanoida N3	25768	7205	4533	773	420	7740	3.81
Calanoida N4	29581	10034	2400	1144	0	8632	4.24
Calanoida N5	11115	8832	1578	154	0	4336	2.13
Calanoida N6	2956	2290	320	0	0	1113	.55
SUB TOTAL	121981	37551	18084	6787	1050	37091	18.23
Calanoida (Copepodida) C1-C5							
Calanoida C1	2352	1101	64	64	0	716	.35
Calanoida C2	1161	1248	64	0	0	495	.24
Calanoida C3	1944	1863	1359	0	0	1033	.51
Calanoida C4	1455	3449	7655	71	120	2550	1.25
Calanoida C5	1592	862	2953	7263	367	2607	1.28
SUB TOTAL	8504	8523	12095	7398	487	7401	3.64
Cyclopoida (Nauplii) N1-N6							
Cyclopoida N1	10555	12110	5240	2565	8919	7878	3.87
Cyclopoida N2	12486	21193	15538	4179	25702	15820	7.78
Cyclopoida N3	7584	18854	15448	6645	26016	14909	7.33
Cyclopoida N4	10594	19132	18546	6680	13770	13744	6.76
Cyclopoida N5	6374	7346	10680	8067	6939	7881	3.87
Cyclopoida N6	3755	3858	1139	4241	2750	3149	1.55
SUB TOTAL	51348	82493	66591	32377	84096	63381	31.16
Cyclopoida (Copepodida) C1-C5							
Cyclopoida C1	10857	6418	6554	3177	2849	5971	2.94
Cyclopoida C2	7127	10358	5599	2549	3580	5843	2.87
Cyclopoida C3	7168	9482	7480	4888	3389	6481	3.19
Cyclopoida C4	6593	9306	17289	10019	16497	11941	5.87
Cyclopoida C5	6175	6756	20005	11684	4994	9923	4.88
SUB TOTAL	37920	42320	56927	32317	31309	40159	19.74
Calanoida (Adults) C6							
Diaptomus minutus (m)	10972	7271	5450	1933	4548	6035	2.97
Diaptomus minutus (f)	8742	5873	3518	2229	4263	4925	2.42
SUB TOTAL	19714	13144	8968	4162	8811	10960	5.39
Cyclopoida (Adults) C6							
Mesocyclops edax (m)	225	446	7281	3874	1641	2693	1.32
Mesocyclops edax (f)	0	414	1288	660	3787	1230	.60
Cyclops bicuspidatus thomasi (m)	3776	3938	4855	2611	2799	3596	1.77
Cyclops bicuspidatus thomasi (f)	2339	3676	4248	9784	4863	4982	2.45
SUB TOTAL	6340	8474	17672	16929	13090	12501	6.15

Cladocera							
Diaphanosoma birgei	0	0	361	661	181	241	.12
Holopedium gibberum	32548	12350	2140	1121	17574	13147	6.46
Bosmina longirostris	5468	4578	4511	14073	11248	7974	3.92
Daphnia catawba	745	2784	6908	22363	19638	10488	5.16
Daphinia g.m. (z thorata)	0	0	0	128	60	38	.02
Chydorus sphaericus	0	0	0	1	0		.00
Daphnia retrocurva	0	132	4	0	0	27	.01
SUB TOTAL	38757	19844	13924	38347	48697	31914	15.69
TOTAL CRUSTACEA	284564	212349	194261	138317	187540	203406	100.00
%Cladocera	13.62	9.34	7.17	27.72	25.97	15.69	
%Calanoida (Nauplii) N1-N6	42.87	17.68	9.31	4.91	.56	18.23	
%Calanoida (Copepodida) C1-C5	2.99	4.01	6.23	5.35	.26	3.64	
%Calanoida (Adults) C6	6.93	6.19	4.62	3.01	4.70	5.39	
%Cyclopoida (Nauplii) N1-N6	18.04	38.85	34.28	23.41	44.84	31.16	
%Cyclopoida (Copepodida) C1-C5	13.33	19.93	29.30	23.36	16.69	19.74	
%Cyclopoida (Adults) C6	2.33	3.99	9.10	12.24	6.98	6.15	
Rotifera							
Globular rotifera	0	0	0	0	1260	252	.02
Polyarthra vulgaris	229985	270597	63447	71126	313456	189722	15.44
Filinia longiseta	0	0	0	158	0	31	.00
Kellicottia longispina	3113	591	5394	2683	9437	4244	.35
Keratella cochlearis	5623	0	0	0	19951	5115	.42
Keratella hiemalis	2182	3377	0	0	330	1178	.10
Monostyla sp.	221	273	457	128	330	282	.02
Kellicottia bostoniensis	44459	327269	92561	29426	19786	102700	8.36
Trichocerca cylindrica	221	0	0	0	0	44	.00
Trichocera sp.	0	877	155	0	348	276	.02
Collotheca sp.	0	0	0	0	1260	252	.02
Keratella taurocephala	1278452	1130963	527403	222402	62596	644363	52.45
Iocene sp.	0	0	301	282	330	183	.01
Synchaeta sp.	0	0	0	0	840	168	.01
Pompholyx sp.	442	0	0	0	0	88	.01
Polyarthra remata	125040	189082	43455	9602	59154	85267	6.94
Gastropus stylifer	83118	442945	366479	54692	24814	194410	15.82
SUB TOTAL	1772856	2365974	1099652	390495	513892	1228574	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	2057420	2578323	1293913	528812	701432	1431980	
%Cladocera	1.88	.77	1.08	7.25	6.94	2.23	
%Calanoida	7.30	2.30	3.03	3.47	1.48	3.87	
%Cyclopoida	4.65	5.17	10.91	15.44	18.32	8.10	
%Rotifera	86.17	91.76	84.99	73.84	73.26	85.80	

Appendix 7

Abundance as individuals per cubic metre and per square metre of zooplankton species or life stages on each sampling date at three stations 10 m apart from June 6 to September 1, 1980. In most cases, abundance is shown for each sampling layer during periods of thermal stratification or for the entire water column during non-stratification. The results of sampling the entire water column are shown in the "upper" column of the table. Zeros indicate no animals were found in the subsamples. The corresponding dates and depth limits of each sampling layer are given in Table 4.

Density listing for lake 223
Diaphanosoma birgei

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	306	0	0	1280	0	0
168	255	0	0	1232	0	0
182	2677	0		12942	0	
189	470	0		2410	0	
196	3606		0	19496		0
203	4526		0	21879		0
210	1530		0	8271		0
217	163		0	886		0
224	0		0	0		0
231	23		218	140		245
238	95		0	563		0
245	286		127	1691		135

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	95	0	0	332	0	0
161	459	0	0	1920	0	0
168	573	0	0	2773	0	0
182	1657	0	255	8012	0	50
189	765	0	0	4135	0	0
196	929	688	0	5021	1158	0
203	9818	0	0	47456	0	0
210	655		382	3544		662
217	218		0	1181		0
224	95		0	563		0
231	0		0	0		0
238	0		0	0		0
245	191		0	1127		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	153	0	0	640	0	0
168	347	0	306	1567	0	95
182	0	0	0	0	0	0
189	0		0	0		0
196	3442	0	382	18610	0	69
203	6120		0	29583		0
210	327		0	1772		0
217	273		0	1476		0
224	0		0	0		0
231	0		0	0		0
238	191		0	1127		0
245	95		0	563		0

Density listing for lake 223
Holopedium gibberum

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1147	0	0	3985	0	0
161	1071	0	255	4481	0	67
168	1849	645	0	8936	1200	0
182	191	0		924	0	
189	0	0		0	0	
196	54		0	295		0
203	191		0	924		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	239		0	1409		0
245	47		0	281		0

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1530	655	0	5313	2283	0
161	841	63	0	3521	176	0
168	1849	0	0	8936	0	0
182	127	0	0	616	0	0
189	0	0	0	0	0	0
196	54	0	0	295	0	0
203	0	0	0	0	0	0
210	109		0	590		0
217	0		0	0		0
224	0		0	0		0
231	95		0	563		0
238	143		0	845		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	191	235	255	664	788	67
161	1224	245	0	5122	714	0
168	695	172	306	3135	398	95
182	255	0	0	1232	0	0
189	127		0	616		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	54		0	295		0
224	0		0	0		0
231	0		0	0		0
238	95		0	563		0
245	0		0	0		0

Density listing for lake 223
Daphnia galeata mendotae

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	76	0	0	320	0	0
168	63	0	0	308	0	0
182	0	0		0	0	
189	117	0		602	0	
196	163		191	886		296
203	637		612	3081		1298
210	1202		680	6498		1099
217	273		510	1476		824
224	860		1020	5075		1080
231	286		0	1691		0
238	334		127	1973		135
245	0		127	0		135

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	95	0	0	332	0	0
161	0	63	0	0	176	0
168	0	0	0	0	0	0
182	127	0	0	616	0	0
189	0	0	0	0	0	0
196	546	0	0	2953	0	0
203	1211	286	0	5855	646	0
210	437		0	2363		0
217	327		0	1772		0
224	860		0	5075		0
231	0		430	0		512
238	717		0	4229		0
245	191		0	1127		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	95	0	0	332	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	127		0	616		0
196	218	0	191	1181	0	34
203	1402		0	6779		0
210	491		0	2658		0
217	546		573	2953		993
224	688		625	3891		930
231	382		0	2255		0
238	1147		0	6767		0
245	0		344	0		426

Density listing for lake 223
Daphnia catawba

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	76	0	0	320	0	0
168	318	0	0	1540	0	0
182	573	0		2773	0	
189	823	0		4218	0	
196	437		0	2363		0
203	1657		612	8012		1298
210	1366		1700	7384		2748
217	109		5780	590		9343
224	526		6248	3101		6615
231	406		4809	2396		5409
238	95		5355	563		5670
245	143		1020	845		1080

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	446	0	0	2157	0	0
182	255	0	0	1232	0	0
189	437	0	0	2363	0	0
196	437	344	0	2363	579	0
203	765	860	0	3697	1940	0
210	874		892	4726		1545
217	218		2705	1181		4727
224	47		4475	281		5550
231	860		6025	5075		7176
238	47		1291	281		1537
245	95		1338	563		1594

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	76	0	0	320	0	0
168	417	0	0	1881	0	0
182	382	0	0	1848	0	0
189	765		0	3697		0
196	163	0	0	886	0	0
203	255		245	1232		566
210	218		573	1181		993
217	218		2295	1181		3974
224	0		6572	0		9766
231	95		5853	563		7258
238	95		2582	563		3075
245	95		2410	563		2988

Density listing for lake 223
Bosmina longirostris

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1912	5483	1020	6642	17654	335
161	4667	13215	3570	19527	34885	942
168	1211	2151	765	5855	4000	251
182	127	459		616	974	
189	117	0		602	0	
196	0		191	0		296
203	382		0	1848		0
210	2240		1700	12111		2748
217	5027		2040	27176		3297
224	1673		255	9869		270
231	980		2186	5780		2458
238	4686		637	27633		675
245	3012		1530	17764		1620

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1434	1967	218	4981	6851	43
161	3519	6248	892	14725	17315	176
168	765	1434	0	3697	3234	0
182	127	688	0	616	1461	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	318	0	191	1540	0	12
210	2732		637	14769		1104
217	0		0	0		0
224	95		1032	563		1280
231	2582		860	15226		1025
238	812		430	4793		512
245	956		382	5639		455

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	382	4472	255	1328	14989	67
161	4208	11804	2295	17607	34275	112
168	486	1205	0	2195	2789	0
182	127	344	0	616	730	0
189	0		0	0		0
196	163	0	0	886	0	0
203	637		0	3081		0
210	765		286	4135		496
217	163		860	886		1490
224	229		0	1297		0
231	1721		2410	10150		2988
238	478		0	2819		0
245	956		0	5639		0

Density listing for lake 223
Diaptomus ginutus

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3251	127	0	11292	410	0
161	1683	556	0	7043	1468	0
168	1849	1721	255	8936	3200	83
182	701	153		3389	324	
189	0	0		0	0	
196	163		0	886		0
203	510		0	2465		0
210	54		0	295		0
217	601		0	3249		0
224	0		0	0		0
231	167		0	986		0
238	286		0	1691		0
245	478		127	2819		135

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	1912	0	109	6642	0	21
161	1071	63	0	4481	176	0
168	1657	573	306	8012	1293	20
182	892	344	0	4314	730	0
189	218	0	0	1181	0	0
196	218	0	0	1181	0	0
203	0	0	0	0	0	0
210	437		0	2363		0
217	218		0	1181		0
224	47		0	281		0
231	95		0	563		0
238	382		0	2255		0
245	286		0	1691		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3060	470	510	10627	1577	134
161	1377	0	0	5762	0	0
168	1251	172	612	5644	398	191
182	765	0	0	3697	0	0
189	510		0	2465		0
196	54	0	0	295	0	0
203	63		0	308		0
210	327		0	1772		0
217	327		0	1772		0
224	229		0	1297		0
231	191		0	1127		0
238	191		0	1127		0
245	0		0	0		0

Density listing for lake 223
Epischura lacustris

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	0	0	332	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0		0	0	
189	117	0		602	0	
196	0		0	0		0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	0	0	332	0	0
161	0	0	0	0	0	0
168	63	0	0	308	0	0
182	127	0	0	616	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Calanoide N1

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2773	0	0	9631	0	0
161	1071	0	0	4481	0	0
168	765	0	255	3697	0	83
182	318	0		1540	0	
189	117	0		602	0	
196	54		0	295		0
203	127		0	616		0
210	54		0	295		0
217	163		170	886		274
224	95		0	563		0
231	95		0	563		0
238	0		0	0		0
245	95		0	563		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3825	0	109	13284	0	21
161	1147	0	0	4801	0	0
168	573	0	0	2773	0	0
182	127	0	0	616	0	0
189	546	0	0	2953	0	0
196	109	0	0	590	0	0
203	318	0	0	1540	0	0
210	109		0	590		0
217	0		0	0		0
224	382		0	2255		0
231	382		430	2255		512
238	143		0	845		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2486	117	0	8635	394	0
161	1377	0	0	5762	0	0
168	1112	344	0	5017	797	0
182	255	0	0	1232	0	0
189	127		0	616		0
196	327	0	0	1772	0	0
203	0		0	0		0
210	218		0	1181		0
217	54		0	295		0
224	0		0	0		0
231	286		344	1691		426
238	95		0	563		0
245	95		0	563		0

Density listing for lake 223
Calanoide N2

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3825	255	255	13284	821	83
161	2983	278	0	12485	734	0
168	828	215	255	4006	400	83
182	510	0		2465	0	
189	1177	0		6025	0	
196	546		0	2953		0
203	701		306	3389		649
210	163		0	886		0
217	382		0	2067		0
224	95		0	563		0
231	573		0	3383		0
238	95		0	563		0
245	47		0	281		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4877	0	218	16938	0	43
161	1912	63	0	8003	176	0
168	1083	0	0	5238	0	0
182	382	344	0	1848	730	0
189	1093	0	0	5907	0	0
196	819	0	191	4430	0	12
203	318	0	0	1540	0	0
210	437		0	2363		0
217	983		0	5317		0
224	239		0	1409		0
231	382		0	2255		0
238	95		0	563		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	5068	470	765	17602	1577	201
161	2218	0	0	9283	0	0
168	1251	172	918	5644	398	287
182	510	0	0	2465	0	0
189	637		0	3081		0
196	601	0	0	3249	0	0
203	318		0	1540		0
210	273		0	1476		0
217	163		0	886		0
224	0		312	0		465
231	191		0	1127		0
238	95		0	563		0
245	0		0	0		0

Density listing for lake 223
Calanoida N3

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4781	382	255	16606	1231	83
161	3749	139	0	15686	367	0
168	2295	1291	255	11093	2400	83
182	446	0		2157	0	
189	353	0		1807	0	
196	163		191	886		296
203	63		0	308		0
210	54		0	295		0
217	437		0	2363		0
224	430		0	2537		0
231	573		218	3383		245
238	95		0	563		0
245	47		0	281		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	5068	218	437	17602	761	86
161	3060	63	0	12805	176	0
168	2231	573	459	10785	1293	30
182	765	0	0	3697	0	0
189	655	0	153	3544	0	10
196	273	0	0	1476	0	0
203	318	0	0	1540	0	0
210	218		0	1181		0
217	546		0	2953		0
224	334		344	1973		426
231	95		0	563		0
238	47		0	281		0
245	95		0	563		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	6599	117	255	22916	394	67
161	3060	0	0	12805	0	0
168	1251	344	1224	5644	797	383
182	765	0	0	3697	0	0
189	255		0	1232		0
196	273	0	0	1476	0	0
203	382		0	1848		0
210	273		0	1476		0
217	491		0	2658		0
224	0		312	0		465
231	286		0	1691		0
238	0		0	0		0
245	95		0	563		0

Density listing for lake 223
Calanoida N4

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3921	255	0	13617	821	0
161	2295	973	255	9603	2570	67
168	2614	1075	0	12634	2000	0
182	510	0		2465	0	
189	117	0		602	0	
196	273		0	1476		0
203	0		0	0		0
210	109		170	590		274
217	382		0	2067		0
224	191		0	1127		0
231	621		437	3665		491
238	334		127	1973		135
245	47		0	281		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2964	437	546	10295	1522	108
161	2218	446	127	9283	1236	25
168	1402	0	306	6779	0	20
182	510	0	0	2465	0	0
189	218	0	306	1181	0	20
196	382	0	0	2067	0	0
203	63	0	0	308	0	0
210	109		0	590		0
217	546		0	2953		0
224	286		344	1691		426
231	382		0	2255		0
238	143		0	845		0
245	95		0	563		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	5547	941	255	19263	3155	67
161	3060	491	0	12805	1428	0
168	2086	1032	918	9407	2391	287
182	255	344	765	1232	730	138
189	765		0	3697		0
196	327	0	0	1772	0	0
203	255		0	1232		0
210	273		0	1476		0
217	327		0	1772		0
224	229		312	1297		465
231	382		344	2255		426
238	191		430	1127		512
245	0		0	0		0

Density listing for lake 223
Calanoida N5

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3347	1020	255	11624	3284	83
161	1530	550	0	6402	1468	0
168	765	1075	765	3697	2000	251
182	637	459		3081	974	
189	470	0		2410	0	
196	109		0	590		0
203	63		153	308		324
210	54		0	295		0
217	273		0	1476		0
224	0		0	0		0
231	526		218	3101		245
238	95		0	563		0
245	239		0	1409		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2964	765	0	10295	2664	0
161	1606	382	255	6722	1060	50
168	1402	1147	0	6779	2587	0
182	1275	688	255	6163	1461	50
189	327	0	153	1772	0	10
196	163	0	0	886	0	0
203	127	0	0	616	0	0
210	109		0	590		0
217	546		0	2953		0
224	95		0	563		0
231	382		0	2255		0
238	95		0	563		0
245	95		0	563		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4781	941	765	16606	3155	201
161	1836	491	382	7683	1428	18
168	1395	860	612	6271	1992	191
182	510	0	191	2465	0	34
189	892		0	4314		0
196	218	0	191	1181	0	34
203	0		0	0		0
210	0		0	0		0
217	54		0	295		0
224	229		0	1297		0
231	95		0	563		0
238	0		0	0		0
245	95		0	563		0

Density listing for lake 223
Calanoida N6

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4781	1147	510	16606	3695	167
161	1071	278	255	4481	734	67
168	446	430	0	2157	800	0
182	382	0		1848	0	
189	0	0		0	0	
196	54		0	295		0
203	0		0	0		0
210	0		0	0		0
217	54		0	295		0
224	0		0	0		0
231	0		0	0		0
238	0		127	0		135
245	0		127	0		135

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4686	0	218	16274	0	43
161	1912	510	127	8003	1413	25
168	446	0	0	2157	0	0
182	892	344	0	4314	730	0
189	327	0	0	1772	0	0
196	0	0	0	0	0	0
203	63	0	0	308	0	0
210	0		0	0		0
217	218		122	1181		214
224	47		0	281		0
231	0		0	0		0
238	95		0	563		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4781	117	510	16606	394	134
161	841	0	0	3521	0	0
168	347	344	306	1567	797	95
182	510	0	0	2465	0	0
189	255		0	1232		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	218		0	1181		0
224	0		0	0		0
231	191		0	1127		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Calanoids C1

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	7746	1530	510	26901	4926	167
161	5432	1947	765	22729	5140	201
168	1849	215	765	8936	400	251
182	1593	153		7703	324	
189	529	612		2711	1164	
196	163		0	886		0
203	127		0	616		0
210	0		0	0		0
217	0		0	0		0
224	95		0	563		0
231	0		0	0		0
238	95		0	563		0
245	95		0	563		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	9659	983	327	33544	3425	65
161	5279	382	127	22088	1060	25
168	2422	286	459	11710	646	30
182	2550	0	255	12326	0	50
189	1311	0	153	7089	0	10
196	109	0	0	590	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	143		0	845		0
231	0		0	0		0
238	239		0	1409		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	7459	1765	1020	25905	5916	269
161	5814	737	0	24329	2142	0
168	1530	516	612	6899	1195	191
182	1147	0	0	5546	0	0
189	1785		0	8628		0
196	54	0	0	295	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	229		0	1297		0
231	191		0	1127		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Calanoids C2

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	9946	892	510	34540	2873	167
161	5814	1112	255	24329	2937	67
168	5802	1936	1020	28042	3600	33.
182	1020	153		4930	324	
189	353	0		1807	0	
196	655		0	3544		0
203	191		0	924		0
210	0		0	0		0
217	0		0	0		0
224	47		0	281		0
231	143		218	845		245
238	143		0	845		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	11381	983	327	39522	3425	65
161	7192	701	382	30092	1943	75
168	6694	2295	1071	32356	5174	70
182	1147	0	0	5546	0	0
189	765	344	0	4135	579	0
196	1584	0	0	8566	0	0
203	382	0	191	1848	0	12
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	573		0	3383		0
238	95		0	563		0
245	95		0	563		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	13867	1647	255	48157	5522	67
61	10022	245	765	41936	714	37
168	9320	1032	2448	42022	2391	766
182	892	344	382	4314	730	69
189	1147		0	5546		0
196	1967	430	382	10634	667	69
203	191		0	924		0
210	163		0	886		0
217	0		0	0		0
224	0		0	0		0
231	95		0	563		0
238	95		430	563		512
245	47		0	281		0

Density listing for lake 223
Calanoids C3

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	30183	8671	1275	104818	27918	419
161	27926	4034	1530	116847	10649	403
168	25376	11835	2805	122646	22004	923
182	13070	3672		63172	7793	
189	3884	5049		19884	9605	
196	3989		4973	21564		7708
203	2932		1683	14175		3572
210	983		850	5317		1374
217	218		340	1181		549
224	0		127	0		135
231	47		0	281		0
238	47		127	281		135
245	95		0	563		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	31465	2732	655	109268	9516	130
161	23106	1530	382	96678	4240	75
168	26778	860	2754	129426	1940	181
182	11604	1377	510	56084	2922	100
189	5355	3787	459	28949	6371	30
196	4044	3442	382	21859	5792	24
203	1275	573	191	6163	1293	12
210	1530		765	8271		1324
217	109		245	590		429
224	0		0	0		0
231	0		0	0		0
238	143		0	845		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	32517	5061	2295	112921	16961	605
161	25478	983	1147	105602	2856	56
168	25874	3787	3978	116658	8768	1245
182	11604	3442	3251	56084	7306	590
189	4590		2582	22187		5821
196	3716	2582	1338	20087	4002	243
203	1211		983	5855		2266
210	1912		573	10338		993
217	273		0	1476		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	47		0	281		0

Density listing for lake 223
Calanoids C4

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3442	255	0	11956	821	0
161	3442	834	255	14405	2203	67
168	10137	11620	765	48997	21603	251
182	20849	9793		100767	20782	
189	12477	22188		63872	42208	
196	18253		26587	98663		41212
203	25503		37337	123263		79234
210	18963		30094	102503		48639
217	8908		19552	48150		31602
224	6694		12496	39476		13230
231	5021		4590	29607		5163
238	1338		2550	7895		2700
245	717		255	4229		270

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	4495	109	0	15609	380	0
161	3519	255	0	14725	706	0
168	10328	1721	918	49921	3881	60
182	20147	5164	1275	97377	10959	252
189	17925	11361	1224	96890	19115	80
196	21587	22379	2295	116682	37652	149
203	9563	11476	1530	46223	25874	99
210	16613		19000	89801		32900
217	13006		14263	70304		24929
224	9037		3442	53292		4269
231	4686		2151	27633		2562
238	2104		430	12406		512
245	1147		0	6767		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3347	117	510	11624	394	134
161	2830	0	0	11844	0	0
168	10572	3270	3366	47667	7572	1053
182	19000	5853	3825	91831	12420	694
189	11476		8894	55468		20052
196	23991	12480	7077	129680	19346	1284
203	9245		10083	44682		23227
210	19455		18075	105161		31299
217	13935		12337	75326		21363
224	7115		6572	40209		9766
231	4303		2410	25377		2988
238	1530		1291	9023		1537
245	286		0	1691		0

Density listing for lake 223
Calanoida CS

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	286	0	0	996	0	0
161	76	0	0	320	0	0
168	1338	430	0	6471	800	0
182	637	0		3081	0	
189	0	0		0	0	
196	437		0	2363		0
203	1593		2907	7703		6169
210	4918		8331	26585		13465
217	5465		12751	29539		20610
224	7172		19382	42295		20520
231	15828		17925	93332		20163
238	13198		29329	77824		31050
245	17645		20020	104047		21195

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	573	0	0	1992	0	0
161	153	0	0	640	0	0
168	1275	0	459	6163	0	30
182	382	0	0	1848	0	0
189	546	344	0	2953	579	0
196	1147	0	0	6203	0	0
203	2741	860	0	13250	1940	0
210	2951		3187	15951		5520
217	7104		5410	38401		9455
224	9802		11361	57804		14090
231	12719		10759	75004		12814
238	14584		21518	86001		25629
245	19127		8990	112788		10707

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	286	0	0	996	0	0
161	382	0	0	1600	0	0
168	1251	0	306	5644	0	95
182	1020	0	0	4930	0	0
189	191		0	924		0
196	765	0	0	4135	0	0
203	892		245	4318		566
210	4481		2008	24222		3477
217	7377		6599	39878		11426
224	10558		12206	59665		18138
231	10233		6541	60341		8112
238	13676		31847	80643		37932
245	14441		9640	85155		11955

Density listing for lake 223
Tropocyclops prasinus mexicanus

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0		0	0	
189	0	0		0	0	
196	0		0	0		0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	0	0	332	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	0	0	664	0	0
161	153	0	0	640	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Mesocyclops edax

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	127	0	664	410	0
161	76	0	0	320	0	0
168	318	215	0	1540	400	0
182	0	0		0	0	
189	0	0		0	0	
196	109		0	590		0
203	191		0	924		0
210	273		170	1476		274
217	54		0	295		0
224	47		0	281		0
231	0		0	0		0
238	334		0	1973		0
245	95		255	563		270

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	0	0	664	0	0
161	535	0	0	2240	0	0
168	573	0	0	2773	0	0
182	127	0	0	616	0	0
189	109	0	0	590	0	0
196	0	0	0	0	0	0
203	63	0	0	308	0	0
210	109		0	590		0
217	327		0	1772		0
224	47		0	281		0
231	0		0	0		0
238	143		0	845		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	0	0	0	0
161	153	0	0	640	0	0
168	278	0	0	1254	0	0
182	127	0	0	616	0	0
189	0		0	0		0
196	54	0	0	295	0	0
203	0		0	0		0
210	327		0	1772		0
217	218		0	1181		0
224	229		0	1297		0
231	191		0	1127		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Cyclops bicuspidatus thomasi

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	765	255	0	2463	83
161	0	417	0	0	1101	0
168	63	3012	1020	308	5601	335
182	0	3519		0	7468	
189	0	7957		0	15136	
196	163		6503	886		10080
203	63		7345	308		15587
210	0		8671	0		14014
217	273		11051	1476		17862
224	382		8033	2255		8505
231	71		6339	422		7131
238	0		2040	0		2160
245	0		1530	0		1620

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	218	0	0	43
161	0	382	0	0	1060	0
168	0	2582	765	0	5821	50
182	0	4820	510	0	10229	100
189	0	8263	765	0	13902	50
196	0	11706	3442	0	19694	224
203	127	8607	3825	616	19405	249
210	218		12369	1181		21418
217	327		17460	1772		30516
224	191		16182	1127		20068
231	95		19366	563		23066
238	47		12911	281		15377
245	382		2677	2255		3189

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	823	255	0	2761	67
161	0	983	0	0	2656	0
168	0	2926	306	0	6775	95
182	0	4820	573	0	10229	104
189	0		10328	0		23286
196	218	18506	3825	1181	28685	694
203	127		11066	616		25493
210	54		10042	295		17388
217	655		17501	3544		30305
224	459		11580	2594		17207
231	95		9640	563		11955
238	0		11620	0		13840
245	191		7918	1127		9820

Density listing for lake 223
Cyclopoida N1

STATION 1

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	1434	2167	1530	4981	6979	503
161	668	3477	2805	2881	9180	740
168	382	2151	255	1848	4000	83
182	63	918		308	1948	
189	470	459		2410	873	
196	163		382	886		592
203	255		612	1232		1298
210	273		680	1476		1099
217	327		510	1772		824
224	526		510	3101		540
231	95		874	563		983
238	0		382	0		405
245	95		0	563		0

STATION 2

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	860	1858	655	2989	6471	130
161	382	1147	765	1600	3180	151
168	318	1721	459	1540	3881	30
182	0	344	0	0	730	0
189	109	344	0	590	579	0
196	54	0	0	295	0	0
203	0	860	382	0	1940	24
210	218		1020	1181		1766
217	218		1229	1181		2149
224	0		3787	0		4696
231	0		11620	0		13840
238	0		16784	0		19991
245	95		10711	563		12758

STATION 3

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	286	3884	765	996	13017	201
161	765	3197	765	3201	9282	37
168	556	2410	0	2508	5579	0
182	127	1032	0	616	2191	0
189	0		286	0		646
196	0	860	0	0	1334	0
203	63		245	308		566
210	218		286	1181		496
217	109		2008	590		3477
224	459		3442	2594		5115
231	286		6885	1691		8539
238	191		12911	1127		15377
245	95		19625	563		24338

Density listing for lake 223
Cyclopoida N2

STATION 1

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	1243	7523	1785	4317	24223	587
161	1224	5981	6630	5122	15790	1749
168	1338	5164	1530	6471	9601	503
182	127	2142		616	4546	
189	470	1071		2410	2037	
196	109		573	590		889
203	255		459	1232		974
210	218		1020	1181		1648
217	765		510	4135		824
224	1338		1020	7895		1080
231	95		655	563		737
238	334		1147	1973		1215
245	143		382	845		405

STATION 2

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	1052	4153	655	3653	14464	130
161	1377	2486	765	5762	6890	151
168	956	3156	918	4622	7115	60
182	510	1721	765	2465	3653	151
189	109	1721	0	590	2896	0
196	163	688	382	886	1158	24
203	0	1147	0	0	2587	0
210	327		1912	1772		3312
217	1420		2213	7680		3868
224	526		2410	3101		2988
231	191		5164	1127		6151
238	239		19366	1409		23066
245	191		11667	1127		13897

STATION 3

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	286	6591	1530	996	22089	403
161	841	5802	3060	3521	17137	150
168	834	6025	918	3763	13949	287
182	382	5164	191	1848	10959	34
189	127		286	616		646
196	54	1291	0	295	2001	0
203	191		737	924		1699
210	382		286	2067		496
217	874		1721	4726		2980
224	688		5633	3891		8371
231	191		8607	1127		10674
238	286		25392	1691		30243
245	669		44070	3947		54655

Density listing for lake 223
Cyclopoids N3

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	478	9053	2550	1660	29150	839
161	382	4590	13006	1600	12118	3431
168	446	6885	1275	2157	12802	419
182	446	9946		2157	21107	
189	117	3825		602	7277	
196	163		573	886		889
203	63		306	308		649
210	109		0	590		0
217	382		680	2067		1099
224	765		765	4511		810
231	71		437	422		491
238	191		765	1127		810
245	47		892	281		945

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	5792	1748	664	20174	346
161	535	4080	2550	2240	11308	504
168	892	10042	2601	4314	22639	171
182	892	5853	510	4314	12420	100
189	437	3787	153	2363	6371	10
196	109	688	573	590	1158	37
203	0	1147	191	0	2587	12
210	109		1785	590		3091
217	765		1475	4135		2578
224	286		2754	1691		3415
231	95		8177	563		9739
238	47		15493	281		18453
245	0		9181	0		10935

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	478	6827	2295	1660	22878	605
161	765	7623	6120	3201	22136	300
168	208	11706	3672	940	27101	1149
182	510	5164	573	2465	10959	104
189	127		1721	616		3881
196	0	2582	765	0	4002	138
203	0		737	0		1699
210	163		573	886		993
217	382		1147	2067		1987
224	229		3755	1297		5580
231	95		6885	563		8539
238	191		30556	1127		36394
245	765		33052	4511		40991

Density listing for lake 223
Cyclopoids N4

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	573	9181	5610	1982	29560	1846
161	153	5007	18107	840	13219	4777
168	255	11620	4080	1232	21603	1342
182	63	19586		308	41565	
189	0	11323		0	21540	
196	54		1338	295		2075
203	0		765	0		1623
210	54		850	295		1374
217	273		170	1476		27.
224	286		0	1691		0
231	47		218	281		245
238	191		510	1127		540
245	143		637	845		675

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	382	5574	983	1328	19413	195
161	153	6822	3442	640	18905	680
168	191	17501	2754	924	39457	181
182	255	18592	1020	1232	39454	201
189	655	9984	306	3544	16798	20
196	218	3787	1530	1181	6371	99
203	63	2008	573	308	4527	37
210	0		2805	0		4657
217	109		2705	590		4727
224	95		1721	563		2134
231	95		2582	563		3075
238	239		4303	1409		5125
245	382		5355	2255		6379

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	8239	3060	664	276 2	807
161	76	13771	7268	320	39917	357
168	69	24273	4284	313	56136	1341
182	255	12050	1912	1232	25572	347
189	127		10902	616		24580
196	109	5810	1912	590	9005	347
203	0		2705	0		6231
210	109		2869	590		4968
217	109		4303	590		7452
224	229		2503	1297		3720
231	0		2754	0		3415
238	95		7316	563		8714
245	382		12050	2255		14944

Density listing for lake 223
Cyclopoids N5

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	478	10839	5610	1660	34898	1846
161	76	3755	5610	320	9914	1480
168	0	6455	1530	0	12002	503
182	0	12088		0	25653	
189	0	5814		0	1106.	
196	0		573	0		889
203	0		612	0		1298
210	0		510	0		824
217	0		510	0		824
224	143		127	845		135
231	47		655	281		737
238	239		255	1409		270
245	95		637	563		675

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	2841	655	664	9896	130
161	0	5100	2040	0	14135	403
168	127	10902	1224	616	24580	80
182	255	7230	510	1232	15343	100
189	765	9640	306	4135	16219	20
196	218	4820	1147	1181	8109	74
203	0	3729	1338	0	8409	87
210	0		1402	0		2428
217	0		2951	0		5157
224	47		1377	281		1707
231	0		2582	0		3075
238	47		860	281		1025
245	191		2295	1127		2733

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	382	8004	1530	1328	26823	403
161	76	5902	3825	320	17137	187
168	0	14288	2142	0	33080	670
182	0	7574	765	0	16074	138
189	255		5164	1232		11643
196	0	4734	3251	0	7338	590
203	0		5164	0		11897
210	0		3442	0		5961
217	54		2008	295		3477
224	0		1877	0		2790
231	95		344	563		426
238	95		1721	563		2050
245	0		1377	0		1707

Density listing for lake 223
Cyclopoids N6

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	13644	1530	0	43930	503
161	0	4729	6630	0	12485	1749
168	63	2797	2295	308	5200	755
182	0	1836		0	3896	
189	117	2142		602	4075	
196	0		0	0		0
203	0		153	0		324
210	54		850	295		1374
217	0		340	0		549
224	95		0	563		0
231	0		0	0		0
238	0		127	0		135
245	0		255	0		270

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	1967	874	0	6851	173
161	76	4781	2040	320	13251	403
168	0	6025	612	0	13583	40
182	0	2754	0	0	5845	0
189	218	4131	612	1181	6951	40
196	0	4475	382	0	7530	24
203	0	2008	382	0	4527	24
210	0		1530	0		2649
217	0		2705	0		4727
224	143		2065	845		2561
231	0		860	0		1025
238	191		430	1127		512
245	0		191	0		227

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	7062	765	0	23667	201
161	0	5164	1912	0	14995	93
168	0	5853	612	0	13550	191
182	0	1721	1147	0	3653	208
189	255		1721	1232		3881
196	0	4303	956	0	6671	173
203	0		2213	0		5098
210	0		1434	0		2484
217	0		1434	0		2484
224	0		625	0		930
231	0		688	0		853
238	95		860	563		1025
245	0		2065	0		2561

Density listing for lake 223
Cyclopoids C1

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	10711	1785	332	34487	587
161	382	9876	8926	1600	26072	2355
168	127	6670	2805	616	12402	923
182	318	2754		1540	5845	
189	0	2448		0	4657	
196	0		765	0		1185
203	0		612	0		1298
210	0		340	0		549
217	0		340	0		549
224	0		0	0		0
231	47		695	281		737
238	47		127	281		135
245	191		127	1127		135

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	478	5027	218	1660	17509	43
161	153	4781	765	640	13251	151
168	510	9755	1683	2465	21992	111
182	255	3442	765	1232	7306	151
189	0	2065	459	0	3475	30
196	0	344	382	0	579	24
203	0	573	0	0	1293	0
210	109		1530	590		2649
217	0		737	0		1289
224	47		1377	281		1707
231	191		0	1127		0
238	765		860	4511		1025
245	191		0	1127		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	11770	1785	332	39445	471
161	153	5164	5738	640	14995	281
168	69	8435	3060	313	19529	957
182	382	2065	956	1848	4383	173
189	0		2008	0		4527
196	0	860	382	0	1334	69
203	0		2459	0		5665
210	0		2295	0		3974
217	0		1434	0		2484
224	0		1251	0		1860
231	286		344	1691		426
238	95		0	563		0
245	0		0	0		0

Density listing for lake 223
Cyclopoids C2

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	573	7523	2040	1992	24223	671
161	765	5703	3825	3201	15055	1009
168	382	7746	3060	1848	14402	1007
182	382	3366		1848	7144	
189	0	2601		0	4948	
196	109		1338	590		2075
203	0		459	0		974
210	0		510	0		824
217	54		510	295		824
224	47		0	281		0
231	71		0	422		0
238	143		0	845		0
245	382		127	2255		135

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	382	5792	218	1328	20174	43
161	153	3761	765	640	10424	151
168	318	10328	1836	1540	23286	121
182	255	5853	1020	1232	12420	201
189	218	5164	612	1181	8688	40
196	163	1377	191	886	2317	12
203	0	860	382	0	1940	24
210	109		1020	590		1766
217	109		983	590		1719
224	0		344	0		426
231	95		860	563		1025
238	573		430	3383		512
245	191		191	1127		227

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	12594	3315	332	42207	874
161	229	10574	10328	960	30704	507
168	417	18075	1836	1881	41848	574
182	0	3098	956	0	6575	173
189	127		3729	616		840,
196	54	3012	765	295	4669	138
203	0		983	0		2266
210	0		1434	0		2484
217	0		1147	0		1987
224	0		2190	0		3255
231	95		344	563		42.
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Cyclopoids C3

STATION 1

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	956	8161	9436	3321	26276	3105
161	612	4868	4590	2561	12852	1211
168	1721	8607	6375	8320	16002	2098
182	318	5202		1540	11040	
189	353	4437		1807	8441	
196	327		1912	1772		2964
203	127		459	616		974
210	0		340	0		548
217	0		850	0		1378
224	0		765	0		810
231	23		0	140		0
238	526		127	3101		135
245	47		127	281		135

STATION 2

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	1817	8088	765	6310	28168	151
161	535	4526	1147	2240	12544	226
168	1530	15493	1377	7395	34929	90
182	255	16870	3570	1232	35801	705
189	218	12739	1530	1181	21432	101
196	54	5164	1338	295	8688	87
203	0	3442	1912	0	7762	124
210	109		510	590		883
217	109		737	590		1289
224	47		2410	281		2988
231	0		1721	0		2050
238	1147		430	6767		512
245	95		0	563		0

STATION 3

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	1338	15184	13516	4649	50885	3566
161	918	16477	16067	3841	47842	789
168	1251	21174	8569	5644	49022	2682
182	255	9984	1338	1232	21188	293
189	0		7172	0		16171
196	163	7316	765	886	11340	138
203	0		4918	0		11330
210	54		860	295		1490
217	0		1434	0		2484
224	0		312	0		465
231	0		1032	0		1280
238	95		0	563		0
245	382		0	2255		0

Density listing for lake 223
Cyclopoids C4

STATION 1

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	765	9308	31114	2656	29971	10240
161	918	5425	6375	3841	14321	1682
168	1338	13771	26778	6471	25604	8813
182	892	9028		4314	19159	
189	117	7345		602	13972	
196	491		4208	2658		6522
203	382		3519	1848		7468
210	0		2210	0		3572
217	109		1190	590		1923
224	47		127	281		135
231	0		437	0		491
238	143		127	845		135
245	47		127	281		135

STATION 2

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	1147	32681	1748	3985	113814	346
161	612	8735	17597	2561	24206	3478
168	1849	81484	7345	8936	183705	484
182	510	98125	45651	2465	208233	9023
189	327	58875	7192	1772	99053	474
196	710	54743	21231	3840	92102	1385
203	63	24674	10328	308	55629	674
210	109		7651	590		13248
217	327		9591	1772		16762
224	0		8263	0		10247
231	95		3012	563		3588
238	286		2582	1691		3075
245	0		382	0		455

STATION 3

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	382	20481	65799	1328	68635	17360
161	688	50661	74598	2881	147097	3665
168	1321	66622	47436	5958	154242	14846
182	1402	56465	5547	6779	119825	1006
189	382		55374	1848		124842
196	1038	29695	5738	5612	46030	1041
203	127		37381	616		86112
210	163		12337	886		21363
217	382		9181	2067		15898
224	0		1251	0		1860
231	95		688	563		853
238	0		1721	0		2050
245	0		2410	0		2988

Density listing for lake 223
Cyclopoids C5

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	3315	12241	0	10674	4028
161	0	2086	2805	0	5508	740
168	127	6240	16322	616	11602	5371
182	63	9181		308	19483	
189	0	3366		0	6405	
196	163		5738	886		8894
203	127		3672	616		7793
210	163		4250	886		6870
217	54		3570	295		5778
224	95		1020	563		1080
231	23		874	140		983
238	47		382	281		405
245	143		255	845		270

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	10274	874	332	35781	173
161	76	4208	10456	320	11661	2066
168	0	39020	9640	0	87971	636
182	127	66794	39275	616	141744	7762
189	0	51644	5967	0	86889	393
196	273	58530	26778	1476	98474	1747
203	0	38733	21996	0	87324	143
210	0		14919	0		25834
217	327		28773	1772		50287
224	0		16526	0		20495
231	0		15063	0		17940
238	143		6885	845		8201
245	191		2677	1127		3189

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	13418	26013	0	44968	6863
161	0	19182	34047	0	55697	1673
168	0	36323	29686	0	84095	9291
182	0	52677	10520	0	111788	1909
189	255		72589	1232		163653
196	54	43898	14345	295	68044	2604
203	0		37627	0		86678
210	327		19797	1772		34280
217	327		24387	1772		42229
224	0		1564	0		2325
231	95		3787	563		4696
238	0		3012	0		3588
245	0		6197	0		7685

Density listing for lake 223
Conochilus unicornis

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	13389	892	0	46497	2873	0
161	5661	973	0	23689	2570	0
168	446	215	255	2157	400	83
182	0	0		0	0	
189	588	0		3012	0	
196	0		0	0		0
203	63		0	308		0
210	0		0	0		0
217	0		0	0		0
224	47		0	281		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	19701	437	109	68417	1522	21
161	3519	127	0	14725	353	0
168	127	0	0	616	0	0
182	0	0	255	0	0	50
189	109	0	153	590	0	10
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	14728	1294	2550	51146	4339	672
161	2754	0	1147	11524	0	56
168	2086	172	0	9407	398	0
182	0	344	191	0	730	34
189	0		0	0		0
196	0	0	0	0	0	0
203	63		0	308		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Polyarthra vulgaris

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	478	74980	52792	1660	241412	17374
161	2754	71363	53557	11524	188380	14130
168	5547	89302	165774	26809	166030	54558
182	9563	150114		46223	318560	
189	6356	59219		32539	112651	
196	3388		28500	18314		44177
203	2805		49579	13558		105212
210	655		24143	3544		39021
217	382		21593	2067		34899
224	1673		14792	9869		15660
231	597		26450	3524		29753
238	1769		17980	10432		19035
245	1195		14282	7049		15120

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	765	45797	17816	2656	159493	3534
161	3902	80782	31624	16326	223863	6250
168	5228	172723	44835	25268	389404	2959
182	10839	395944	135169	52386	840239	26716
189	8853	536074	67941	47854	901911	4484
196	2732	334659	107306	14769	563042	7004
203	5292	286629	125478	25577	646204	8190
210	10711		154297	57898		267177
217	2076		80664	11225		140978
224	908		163886	5357		203250
231	1817		319338	10714		380348
238	621		351616	3665		418793
245	1721		100803	10150		120062

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	77217	35705	332	258764	9420
161	7345	225024	183075	30732	653371	7030
168	7998	484257	132823	36063	1121144	41571
182	11731	393190	61400	56701	834394	11145
189	5483		638389	26501		1439243
196	2131	715283	164498	11520	1108728	29859
203	4909		346267	23728		797671
210	2131		215761	11520		373606
217	3115		252486	16837		437199
224	8951		150552	50585		223703
231	3156		173527	18610		215206
238	1625		205719	9587		245022
245	9946		265799	58650		329642

Density listing for lake 223
Polyarthra remata

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	7555	114129	36980	26237	367456	12170
161	11017	99325	67329	46098	262190	17764
168	3634	55518	33409	17565	103218	10995
182	7268	10711		35130	22731	
189	1530	6426		7833	12225	
196	1366		10520	7384		16307
203	1211		14996	5855		31823
210	601		13771	3249		22258
217	546		2380	2953		3847
224	47		5865	281		6210
231	119		6776	704		7622
238	95		4718	563		4995
245	956		4973	5639		5265

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3825	29948	16285	13284	104298	3230
161	12394	44185	21040	51860	122444	4158
168	2231	38733	17138	10785	87324	1131
182	2167	9640	4335	10477	20458	856
189	2513	15149	4896	13588	25487	323
196	1366	22379	10328	7384	37652	674
203	828	29552	14537	4006	66625	948
210	1202		22315	6498		38641
217	983		19182	5317		33525
224	47		18936	281		23484
231	191		62404	1127		74326
238	239		83062	1409		98931
245	1530		15589	9023		18567

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2964	36960	30604	10295	123859	8074
161	15072	65416	40550	63065	189941	1992
168	3547	38561	16526	15993	89277	5172
182	3570	11361	4399	17256	24111	798
189	510		13198	2465		29755
196	929	32708	11476	5021	50699	2083
203	892		28773	4314		66283
210	491		29265	2658		50675
217	1256		30700	6794		53159
224	1836		19405	10376		28835
231	1147		27888	6767		34586
238	860		43037	5075		51259
245	2390		89517	14098		111019

Density listing for lake 223
Keratella cochlearis

STATION 1

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	5833	743815	317266	20259	2394829	104417
161	11017	799888	841111	46098	2111477	221921
168	5802	1018482	789594	28042	1893547	259868
182	2805	1040550		13558	2208165	
189	2354	699923		12051	1331445	
196	2732		412968	14769		640124
203	4148		349502	20030		741683
210	3169		343789	17133		555648
217	5574		471478	30130		762024
224	15780		309232	93050		327375
231	4901		187342	28902		210734
238	6216		124840	36656		132165
245	28309		170874	166927		180900

STATION 2

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	15110	355885	247130	52475	1239401	49027
161	18286	412012	324024	76510	1141758	64044
168	7141	992444	396174	34513	2237458	26150
182	7141	1276319	568222	34513	2708493	112310
189	36506	1800344	327314	197326	3028962	21604
196	29019	1600650	680566	156856	2692990	44422
203	20402	1243209	626052	98610	2802806	40864
210	154443		814205	834797		1409856
217	21313		853617	115205		1491874
224	13628		912050	80361		1131116
231	13293		1227859	78388		1462445
238	5833		1239479	34400		1476285
245	43133		292272	254338		348111

STATION 3

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	14345	618327	325682	49818	2072088	85928
161	24789	728194	647283	103721	2114353	31806
168	13354	1330374	436113	60211	3080059	136495
182	65927	1146518	277926	318635	2433041	50448
189	5738		1477046	27734		3329990
196	9946	1858358	760328	53762	2880558	138013
203	12433		1180210	60090		2718769
210	45906		1007364	248134		1744324
217	49240		1077371	266154		1865548
224	215531		1040411	1217948		1545929
231	56905		1224330	335546		1518403
238	39881		1239049	235164		1475772
245	61113		610443	360359		757066

Density listing for lake 223
Keratella taurocephala

STATION 1

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	36055	2805	2805	125210	9032	923
161	29839	1808	3315	124850	4773	874
168	19956	11620	9181	96453	21603	3021
182	42081	6120		203384	12989	
189	21658	3978		110873	7568	
196	15411		6503	83302		10080
203	68413		18668	330653		39617
210	46398		16152	250793		26106
217	102743		15132	555349		24457
224	123039		57510	725512		60885
231	65201		222319	384468		250078
238	38303		116934	225859		123795
245	4734		9946	27915		10530

STATION 2

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	41029	2732	4153	142480	9516	823
161	32058	1849	1147	134134	5123	226
168	40487	4016	7039	195680	9055	464
182	39275	9296	5610	189825	19727	1108
189	22625	7574	1836	122295	12743	121
196	24647	9984	2486	133224	16798	162
203	17023	3442	1530	82278	7762	99
210	63176		17725	341481		30692
217	65253		14755	352706		25788
224	98508		69892	580861		86680
231	103098		118783	607930		141477
238	19271		78758	113634		93805
245	6216		2869	36656		3417

STATION 3

Day	Density (# per M) 3 Upper	Middle	lower	Weighted Density (# per M) 2 Upper	Middle	lower
158	56618	5767	5610	196616	19328	1480
161	38102	983	1530	159424	2856	75
168	37281	9640	10711	168089	22319	3352
182	34429	10328	6503	166405	21919	1180
189	28819		4877	139287		10996
196	18526	12911	12050	100140	20013	2187
203	9882		3197	47764		7364
210	105312		19797	569233		34280
217	54049		8894	292149		15401
224	118898		61973	671881		92086
231	108263		96403	638383		119559
238	30413		95973	179333		114309
245	3156		3442	18610		4269

Density listing for lake 223
Kelliocottia longispina

STATION 1

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	8607	41571	16577	29891	133844	5455
161	20198	41594	42591	84514	109796	11237
168	8352	48201	21423	40368	89616	7050
182	7268	61055		35130	129567	
189	3295	52180		16872	99261	
196	1694		23335	9157		36171
203	1147		21423	5546		45462
210	929		21593	5021		34899
217	1093		43016	5907		69528
224	4255		47946	25095		50760
231	765		47436	4511		53359
238	717		29966	4229		31725
245	621		15557	3665		16470

STATION 2

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	11667	19237	6995	40519	66994	1387
161	18592	23335	14537	77791	64667	2873
168	9436	46193	16067	45607	104143	1060
182	8543	49923	21423	41293	105943	4234
189	5027	118094	22035	27176	198686	1454
196	3060	87107	43802	16542	146553	2859
203	2295	90378	44185	11093	203758	2884
210	14755		105840	79757		183270
217	6885		108208	37220		189116
224	2390		142195	14098		176349
231	2773		317186	16354		377785
238	1338		279743	7895		333189
245	2486		38829	14662		46247

STATION 3

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	5547	25660	14282	19263	85991	3768
161	26396	41561	18362	110444	120677	902
168	7859	51300	18974	35436	118770	5938
182	10201	58186	17788	49305	123478	3228
189	2550		86361	12326		194702
196	1366	200554	63121	7384	310870	11457
203	1785		102798	8628		236808
210	2841		92674	15360		160471
217	13389		200554	72372		347275
224	34429		205014	194560		304628
231	9659		231713	56958		287369
238	6216		207010	36656		246560
245	7459		86074	43987		106749

Density listing for lake 223
Kelliocottia bostoniensis

STATION 1

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	286	4590	5865	996	14780	1930
161	0	3338	5610	0	8813	1480
168	0	2151	19892	0	4000	6547
182	0	4837		0	9417	
189	117	765		602	1455	
196	0		1147	0		1778
203	0		612	0		1298
210	0		4250	0		6870
217	54		15982	295		25831
224	47		1275	281		1350
231	23		13990	140		15737
238	266		5993	1691		6345
245	430		23335	2537		24705

STATION 2

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	95	4481	2076	332	15606	411
161	0	6375	3698	0	17668	730
168	63	20084	5661	308	45279	373
182	127	81254	27543	616	172431	5444
189	327	167329	22035	1772	281521	1454
196	54	129456	51262	295	217802	3346
203	0	234984	144605	0	529771	9438
210	36288		214613	196144		371619
217	327		468739	1772		819220
224	95		921690	563		1143072
231	478		2851664	2819		3396481
238	382		5314699	2255		6330086
245	2199		967674	12970		1152550

STATION 3

Day	Density (# per M 3) Upper	Middle	Lower	Weighted Density (# per M 2) Upper	Middle	Lower
158	0	7415	3570	0	24850	942
161	76	15493	17214	320	44986	845
168	69	38389	11935	313	88878	3735
182	127	71270	9563	616	151243	1736
189	382		147762	1848		333128
196	601	289211	69433	3249	448294	12603
203	1147		338151	5546		778976
210	491		412586	2658		714422
217	17488		1155986	94527		2001676
224	148737		254155	840500		377645
231	80049		629380	472020		780551
238	61017		772522	359795		920115
245	95351		2711706	562251		3363032

Density listing for lake 223
Trichocera sp.

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	1402	3060	0	4516	1007
161	0	3060	2295	0	8078	605
168	0	1721	3060	0	3200	1007
182	191	5049		924	10716	
189	470	0		2410	0	
196	54		10328	295		16010
203	0		3519	0		7468
210	0		2210	0		3572
217	163		2550	886		4122
224	47		6248	281		6615
231	0		1530	0		1721
238	0		2932	0		3105
245	0		3825	0		4050

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	191	218	327	664	761	65
161	535	828	1402	2240	2296	277
168	0	0	0	0	0	0
182	127	2410	4335	616	5114	856
189	874	8951	7651	4726	15060	505
196	109	18592	17597	590	31280	1148
203	255	11763	8607	1232	26520	561
210	1858		6375	10043		11040
217	874		3442	4726		6017
224	191		7574	1127		9393
231	382		8177	2255		9739
238	47		7316	281		8714
245	478		1530	2819		1822

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	235	1275	0	788	336
161	229	2213	3825	960	6426	187
168	139	4648	2142	627	10761	670
182	765	4475	3251	3697	9498	590
189	127		7746	616		17464
196	273	24961	23335	1476	38692	4235
203	510		19182	2465		44189
210	819		13198	4430		22853
217	1366		7746	7384		13414
224	1377		9076	7782		13487
231	286		4475	1691		5550
238	382		4303	2255		5125
245	191		12394	1127		15371

Density listing for lake 223
Keratella hiemalis

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	510	2295	332	1642	755
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0		0	0	
189	0	0		0	0	
196	0		0	0		0
203	63		0	308		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	983	0	0	3425	0
161	0	382	382	0	1060	75
168	0	0	153	0	0	10
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	3648	1530	332	12228	403
161	0	2951	3060	0	8568	150
168	0	860	612	0	1992	191
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Pecans sp.

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	127	0	332	410	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0		0	0	
189	0	0		0	0	
196	54		0	295		0
203	0		306	0		649
210	54		0	295		0
217	0		0	0		0
224	95		0	563		0
231	71		0	422		0
238	0		127	0		135
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	0	109	332	0	21
161	76	191	255	320	530	50
168	0	0	0	0	0	0
182	0	344	0	0	730	0
189	109	344	153	590	579	10
196	54	344	0	295	579	0
203	0	0	0	0	0	0
210	109		127	590		220
217	0		0	0		0
224	0		0	0		0
231	95		0	563		0
238	95		0	563		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	95	117	0	332	394	0
161	0	0	382	0	0	18
168	139	0	0	627	0	0
182	255	0	0	1232	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	127		0	616		0
210	0		286	0		496
217	54		0	295		0
224	0		0	0		0
231	0		0	0		0
238	0		430	0		512
245	0		0	0		0

Density listing for lake 223
Gastropus stylifer

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	5642	19956	9946	19595	64253	3273
161	13542	43959	32134	56662	116039	8478
168	11030	69075	46926	53311	128423	15448
182	32453	23412		156852	49683	
189	28603	25554		146425	48612	
196	28418		35577	153607		55147
203	66564		38255	321716		81182
210	53885		122757	291263		198406
217	32243		172064	174285		278099
224	49732		80846	293250		85590
231	8296		187998	48922		211472
238	95		102907	563		108945
245	38925		88242	229524		93420

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	9372	17051	12788	32548	59381	2537
161	9410	1593	11731	39375	4417	2318
168	4399	22379	13312	21262	50454	878
182	24483	17214	5865	118332	36532	1159
189	26341	18247	6273	142382	30700	414
196	21641	33052	11094	116977	55609	724
203	25376	27830	6120	122646	62744	399
210	39348		78423	212687		135796
217	37271		130833	201461		228659
224	29217		127735	172284		158416
231	19797		194529	116736		231694
238	27065		275439	159595		328063
245	40455		28500	238547		33945

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	6407	25189	10711	22252	84414	2826
161	18133	22871	25248	75870	66408	1240
168	10781	49407	15608	48607	114386	4885
182	23208	23412	13006	112169	49683	2360
189	37617		24961	181813		56276
196	16777	37872	19127	90687	58705	3472
203	17788		24100	85976		55519
210	43939		59965	237500		103834
217	25576		121365	138246		210153
224	49349		132711	278869		197194
231	18362		123603	108277		153292
238	31465		225946	185537		269114
245	28309		60941	166927		75578

Appendix 8

Abundance of eggs of selected major zooplankton species, expressed as numbers per cubic metre and numbers per square metre at three stations 10 m apart from June 6 to September 1, 1980. In most cases, abundance is shown for each sampling layer during periods of thermal stratification or for the entire water column during non-stratification. The results of sampling the entire water column are shown in the "upper" column of the table. Zeros indicate no animals were found in the subsamples. The corresponding dates and depth limits of each sampling layer are given in Table 4.

Density listing for lake 223
Diaphanosoma birgei egg

STATION 1

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	191	0	0	924	0	0
182	255	0		1232	0	
189	0	0		0	0	
196	273		0	1476		0
203	63		0	308		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	47		0	281		0
238	0		0	0		0
245	0		255	0		270

STATION 2

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	76	0	0	320	0	0
168	63	0	0	308	0	0
182	255	0	0	1232	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	127	0	0	616	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	191		0	924		0
210	0		0	0		0
217	58		0	295		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Holopedium gibberum eggs

STATION 1

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	153	0	0	640	0	0
168	0	0	0	0	0	0
182	191	0		924	0	
189	0	0		0	0	
196	54		0	295		0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	63	0	0	308	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M 3) Upper	Middle	lower	Weighted Density (# per M 2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	69	0	0	313	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density Listing for Lake 223
Daphnia galeata mendotae eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	127	0	0	616	0	0
182	0	0		0	0	
189	0	0		0	~	
196	0		0	0		0
203	63		0	308		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	255	0	0	706	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	382	0	0	2067	0	0
203	382	0	0	1848	0	0
210	0		0	0		0
217	0		0	0		~
224	47		0	281		0
231	0		0	0		0
238	0		0	0		0
245	191		0	1127		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	382	0	0	1328	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	127		0	616		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density Listing for Lake 223
Daphnia catawba eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	63	0		308	0	
189	0	0		0	0	
196	0		0	0		0
203	0		0	0		0
210	0		1360	0		2198
217	0		0	0		0
224	0		510	0		540
231	0		0	0		0
238	0		255	0		270
245	0		510	0		540

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		983	0		1719
224	0		1377	0		1707
231	0		0	0		~
238	0		0	0		0
245	0		573	0		683

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		1251	0		1860
231	0		0	0		0
238	0		0	0		0
245	0		1721	0		2134

Density listing for lake 223
Bosmina longirostris eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	0	0	0	0
161	0	834	0	0	2203	0
168	63	0	0	308	0	0
182	0	0		0	0	
189	0	0		0	0	
196	0		0	0		0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		127	0		135
245	47		0	281		0

STATION 2

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	0	0	0	0	0
161	229	63	0	960	176	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	63	0	0	308	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		430	0		512
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	0	235	0	0	788	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	95		0	563		0
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Diaptomus minutus eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	2964	0	0	10295	0	0
161	1606	556	0	6722	1468	0
168	892	645	0	4318	1200	0
182	191	0		924	0	
189	0	0		0	0	
196	0		0	0		0
203	637		0	3081		0
210	163		0	886		0
217	273		0	1476		0
224	0		0	0		0
231	0		0	0		0
238	286		0	1691		0
245	95		362	563		405

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1912	0	0	6642	0	0
161	1759	0	0	7362	0	0
168	1147	0	612	5546	0	40
182	255	688	0	1232	1461	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	218		0	1181		0
224	0		0	0		0
231	191		0	1127		0
238	95		0	563		0
245	478		0	2819		0

STATION 3

Day	Density (# per M^3) Upper	Middle	lower	Weighted Density (# per M^2) Upper	Middle	lower
158	3347	470	1020	11624	1577	269
161	1224	0	0	5122	0	0
168	765	344	0	3949	797	0
182	382	0	0	1848	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	109		0	590		0
217	218		0	1181		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

Density Listing for Lake 223
Cyclops bicuspidatus thomasi eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0		0	0	
189	0	0		0	0	
196	0		0	0		0
203	0		0	0		0
210	0		0	0		0
217	546		0	2953		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		393	0		667
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	0	0	0	0	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		1377	0		16403
245	0		0	0		0

Density Listing for Lake 223
Mesocyclops edax eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	255	0	0	821	0
161	0	0	0	0	0	0
168	828	1291	0	4006	2400	0
182	0	0		0	0	
189	0	0		0	0	
196	0		0	0		0
203	0		0	0		0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	0	0	0	0	0	0
168	510	0	0	2465	0	0
182	0	0	0	0	0	0
189	0	0	0	0	0	0
196	0	0	0	0	0	0
203	0	0	0	0	0	0
210	0		0	0		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
238	0		0	0		0
245	0		0	0		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	0	0	0	0	0
161	1377	0	0	5762	0	0
168	5633	0	0	25401	0	0
182	0	0	0	0	0	0
189	0		0	0		0
196	0	0	0	0	0	0
203	0		0	0		0
210	1038		0	5612		0
217	0		0	0		0
224	0		0	0		0
231	0		0	0		0
38	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Kelliocottis longispina eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1530	13389	4845	5313	43109	1594
161	2907	12102	11731	12164	31947	3095
168	1402	15063	5355	6779	28005	1762
182	1020	25248		4930	53580	
189	235	13771		1205	26198	
196	0		6885	0		10673
203	0		7192	0		15262
210	0		8331	0		13465
217	0		13261	0		21434
224	334		9563	1973		10125
231	0		9399	0		10573
238	47		2932	281		3105
245	0		1785	0		1890

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	2295	5465	1311	7970	19032	260
161	2218	6694	3060	9283	18552	604
168	1402	12624	3978	6779	28461	262
182	1402	16526	5610	6779	35070	1108
189	218	27543	4437	1181	46340	292
196	491	17214	7842	2658	28963	511
203	446	23527	10328	2157	53041	674
210	3716		20657	20087		35770
217	765		25576	4135		44700
224	191		30298	1127		37575
231	382		40455	2255		48188
238	95		29265	563		34856
245	0		2677	0		3189

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	860	6944	3570	2989	23273	942
161	3749	8607	3060	15686	24992	150
168	1321	12394	5814	5958	28696	1819
182	2295	17214	3825	11093	36532	694
189	255		17788	1232		40104
196	109	39164	13771	590	60706	2499
203	127		20412	616		47021
210	491		21805	2658		37758
217	765		32995	4135		57133
224	5049		33177	28535		49298
231	95		27888	563		34586
238	286		20227	1691		24092
245	382		5508	2255		6831

Density listing for lake 223
Kelliocottis bostoniensis eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	95	2422	1530	332	7800	503
161	0	973	3825	0	2570	1009
168	0	1291	8926	0	2400	2937
182	0	1530		0	3247	
189	0	306		0	582	
196	0		765	0		1185
203	0		459	0		974
210	0		510	0		824
217	0		6120	0		9892
224	0		637	0		675
231	0		2186	0		2458
238	0		255	0		270
245	0		2295	0		2430

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	2076	874	0	7232	173
161	0	2932	2040	0	8127	403
168	63	9755	1836	308	21992	121
182	0	40627	12751	0	86215	2520
189	0	62662	8875	0	105425	585
196	0	56465	18745	0	94999	1223
203	0	96403	52218	0	217342	3408
210	8853		75363	47854		130497
217	109		158623	590		27722.
224	0		269931	0		334766
231	95		548728	563		653563
238	0		651157	0		775562
245	191		81866	1127		97507

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	0	4355	2040	0	14594	538
161	0	6640	7268	0	19279	357
168	69	17042	4896	313	39457	1532
182	0	22723	3634	0	48222	659
189	0		57670	0		130017
196	163	106732	33856	886	165441	6145
203	446		121242	2157		279298
210	218		148622	1181		257351
217	2459		366966	13292		635429
224	29839		90456	168619		134408
231	7459		162853	43987		201969
238	1721		155365	10150		185048
245	3921		108454	23121		134504

Density listing for lake 223
Keratella taurocephala eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1625	382	0	5646	1231	0
161	918	0	510	3841	0	134
168	0	0	0	0	0	0
182	1657	306		8012	649	
189	823	153		4218	291	
196	710		0	3840		0
203	4526		766	21879		1623
210	3224		1360	17428		2198
217	4372		680	23631		1099
224	5068		382	29888		405
231	956		2623	5639		2950
238	191		255	1127		270
245	47		127	281		135

STATION 2

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1338	109	109	4649	380	21
161	306	0	0	1280	0	0
168	2040	286	0	9861	646	0
182	2422	0	0	11710	0	0
189	765	0	0	4135	0	0
196	765	0	191	4135	0	12
203	1211	0	0	5855	0	0
210	2186		382	11815		662
217	2951		1475	15951		2578
224	5021		2410	29607		2988
231	1912		4303	11278		5125
238	95		0	563		0
245	95		0	563		0

STATION 3

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1052	353	0	3653	1183	0
161	535	0	0	2240	0	0
168	695	0	918	3135	0	287
182	1275	0	382	6163	0	69
189	637		0	3081		0
196	601	0	382	3249	0	69
203	510		0	2465		0
210	5027		860	27176		1490
217	2732		286	14769		496
224	3902		2190	22050		3255
231	1147		1377	6767		1707
238	0		0	0		0
245	0		0	0		0

Density listing for lake 223
Keratella cochlearis eggs

STATION 1

Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1052	126625	15557	3653	407691	5120
161	1147	105585	87732	4801	278715	23147
168	191	76821	36725	924	142826	12086
182	446	157000		2157	333173	
189	0	72226		0	137394	
196	0		46289	0		71750
203	382		18362	1848		38967
210	218		29244	1181		47265
217	437		36215	2363		58532
224	812		20913	4793		22140
231	860		25795	5075		29016
238	1386		14792	8177		15660
245	1482		5228	8741		5535

STATION 2

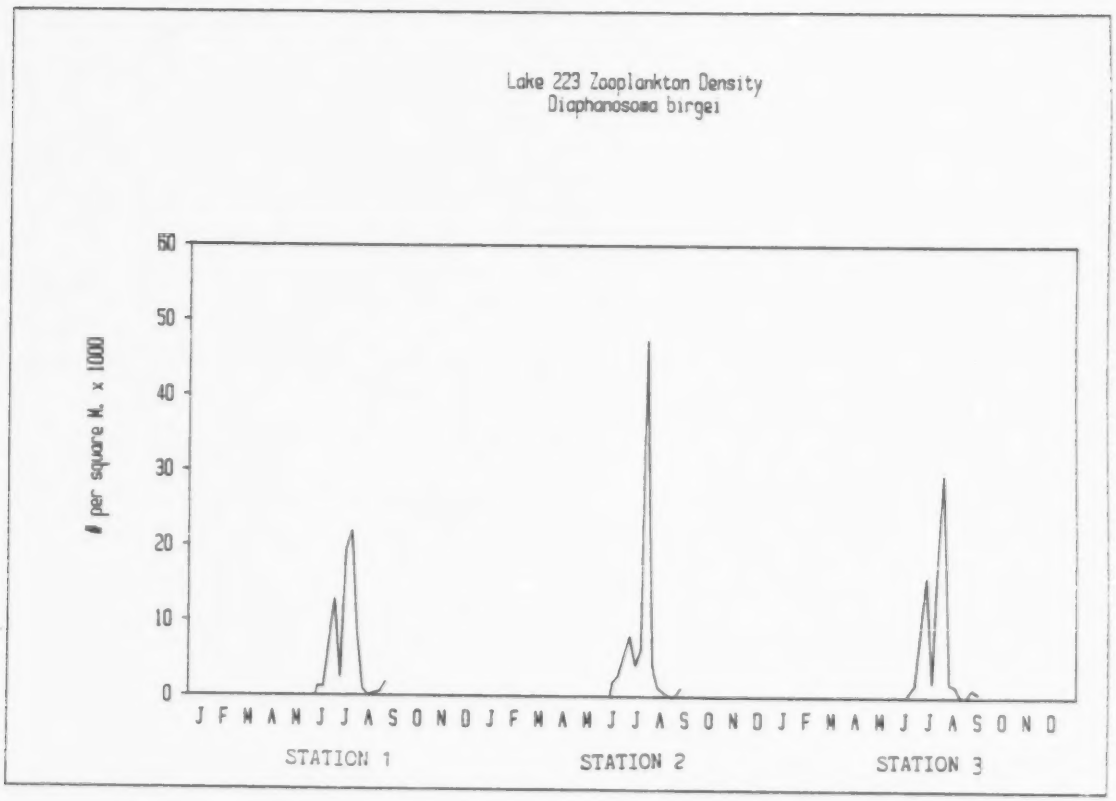
Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	2008	18690	20767	6974	65091	4119
161	1071	27384	29201	4481	75887	5771
168	191	30700	24483	924	69213	1616
182	382	103289	31624	1848	219192	6250
189	2841	154590	27390	15360	260088	1807
196	1584	128079	63121	8566	215485	4120
203	1211	84353	46863	5855	190174	3058
10	7760		68477	41946		118573
217	874		54104	4726		94558
224	956		35462	5639		43980
231	1243		41746	7331		49722
238	717		58100	4229		69200
245	2104		2677	12406		3189

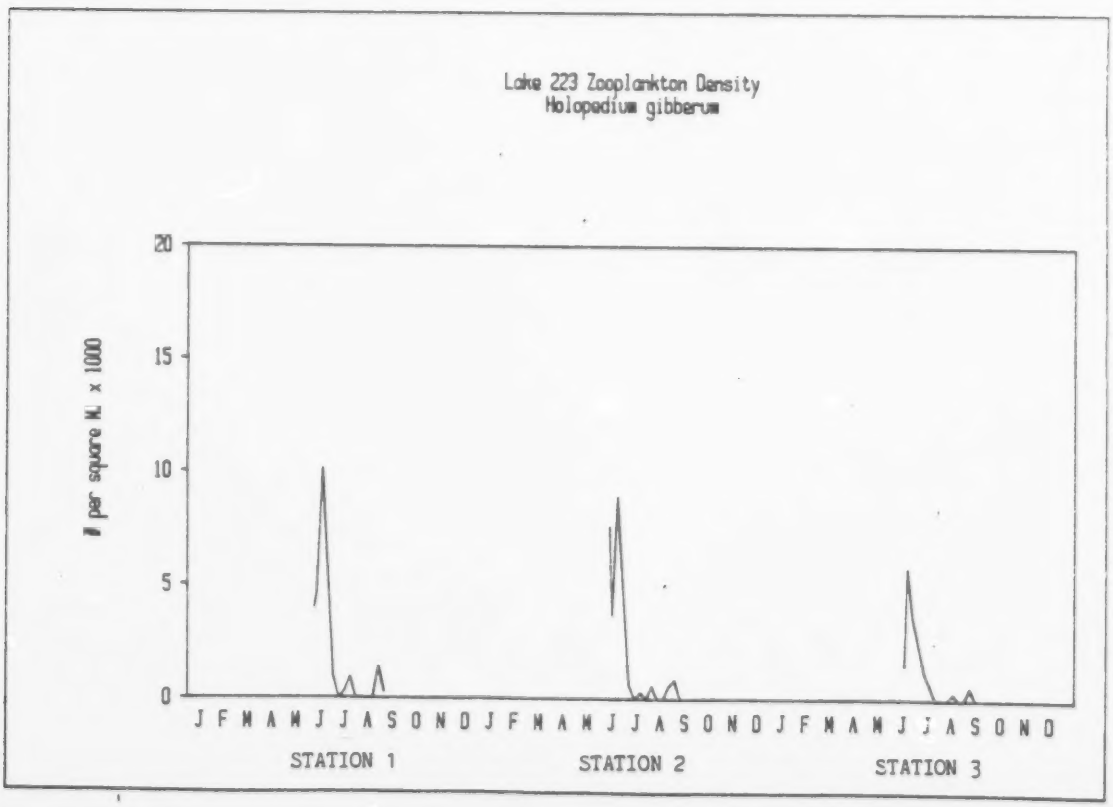
STATION 3

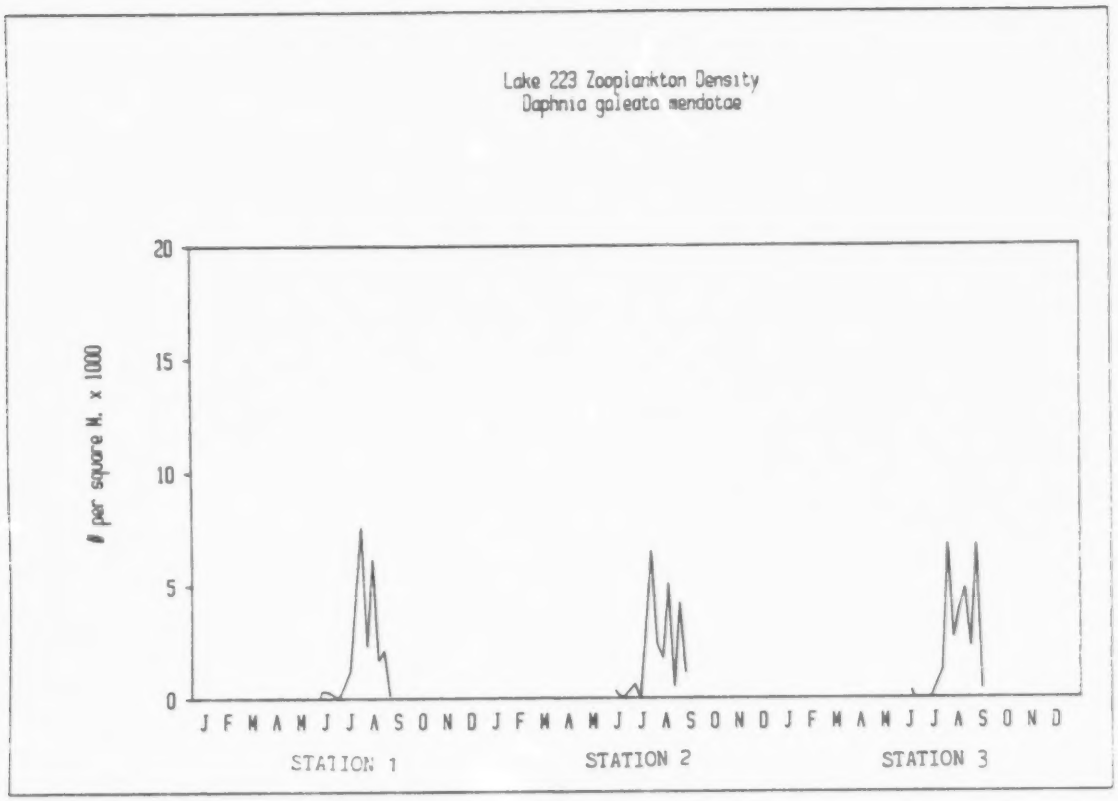
Day	Density (# per M^3) Upper	Middle	Lower	Weighted Density (# per M^2) Upper	Middle	Lower
158	1052	36254	20657	3653	121493	5450
161	1759	28035	321346	7362	81403	15790
168	695	46136	22953	3135	106813	7183
182	5100	72991	19127	24652	154896	3472
189	0		88370	0		199230
196	273	70581	87796	1476	109405	15936
203	573		36643	2773		84412
210	3333		53366	18019		92407
217	2131		27257	11520		47197
224	8492		37559	47991		55809
231	1243		30298	7331		37575
238	1912		48632	11278		57923
245	1721		3787	10150		4696

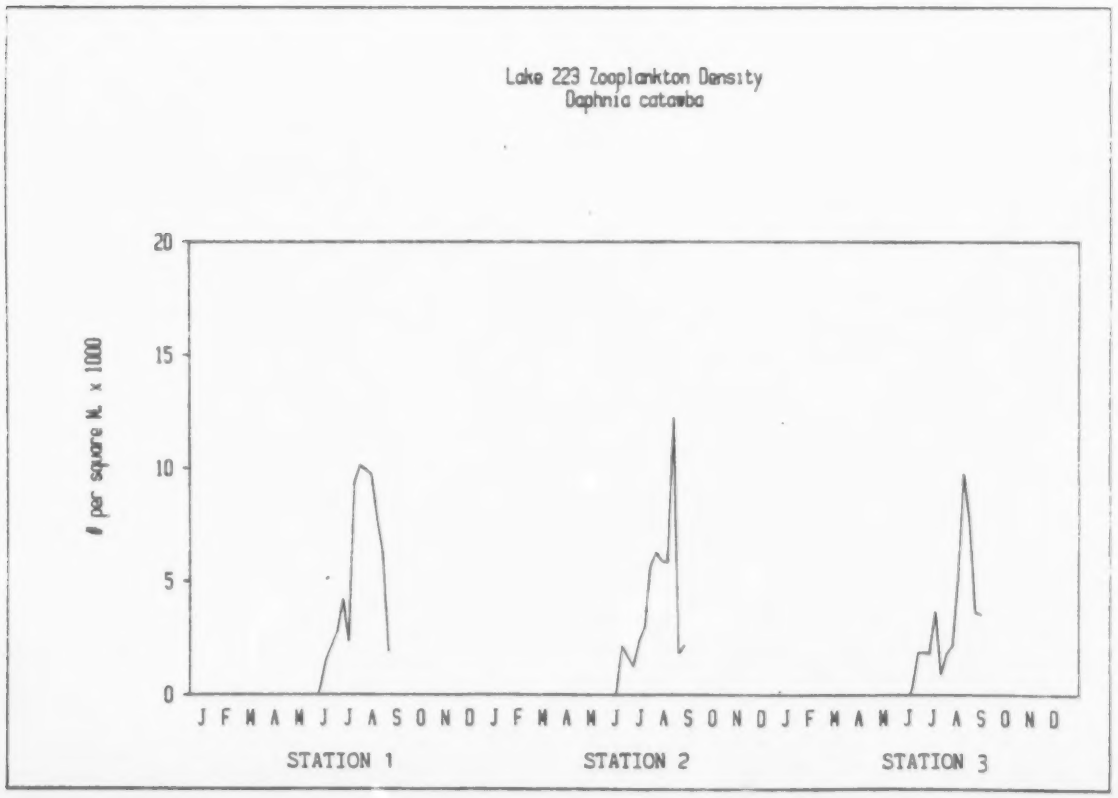
Appendix 9

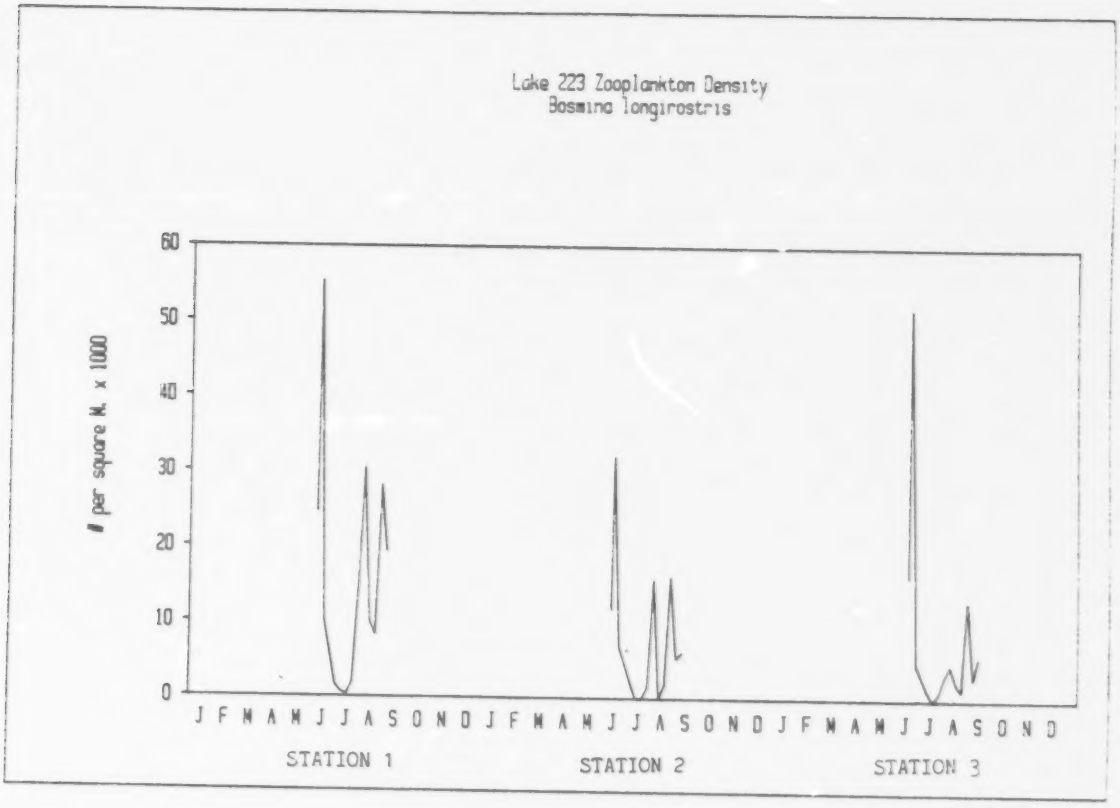
Figures showing lake volume-weighted abundance of zooplankton species (numbers per square metre) at three stations 10 m apart, from June 6 to September 1, 1980.

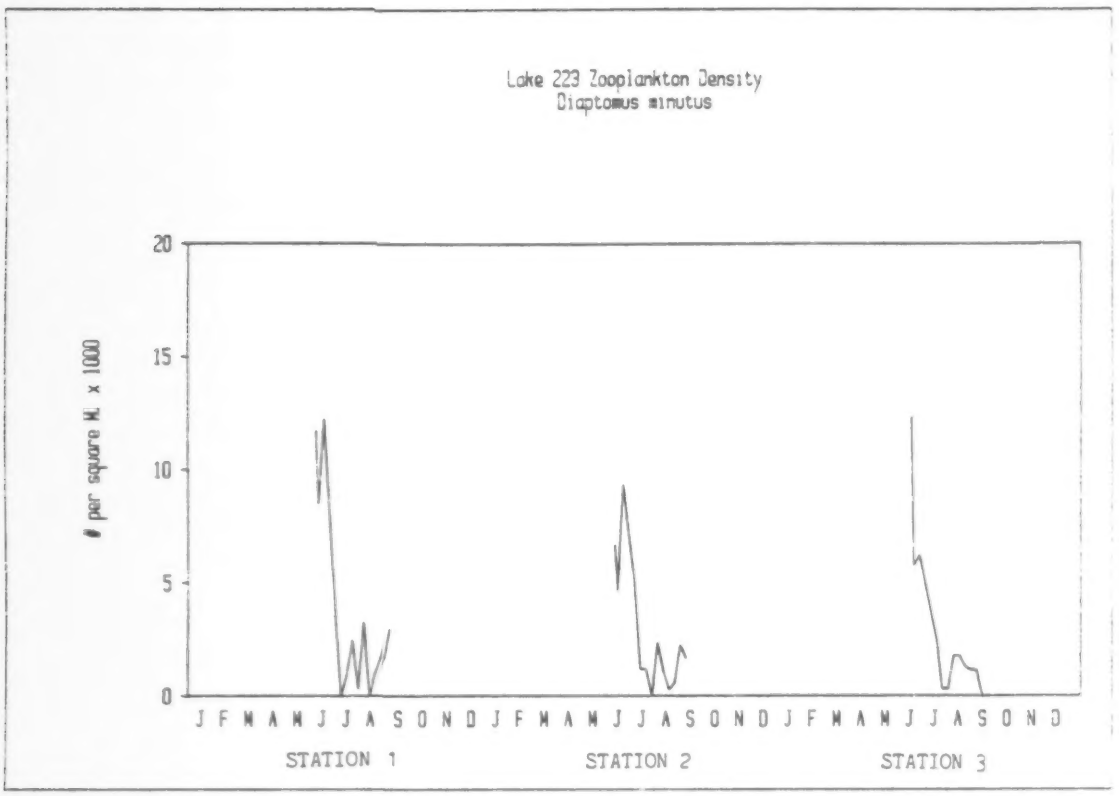

Lake 223 Zooplankton Density
Diaphanosoma birgei
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

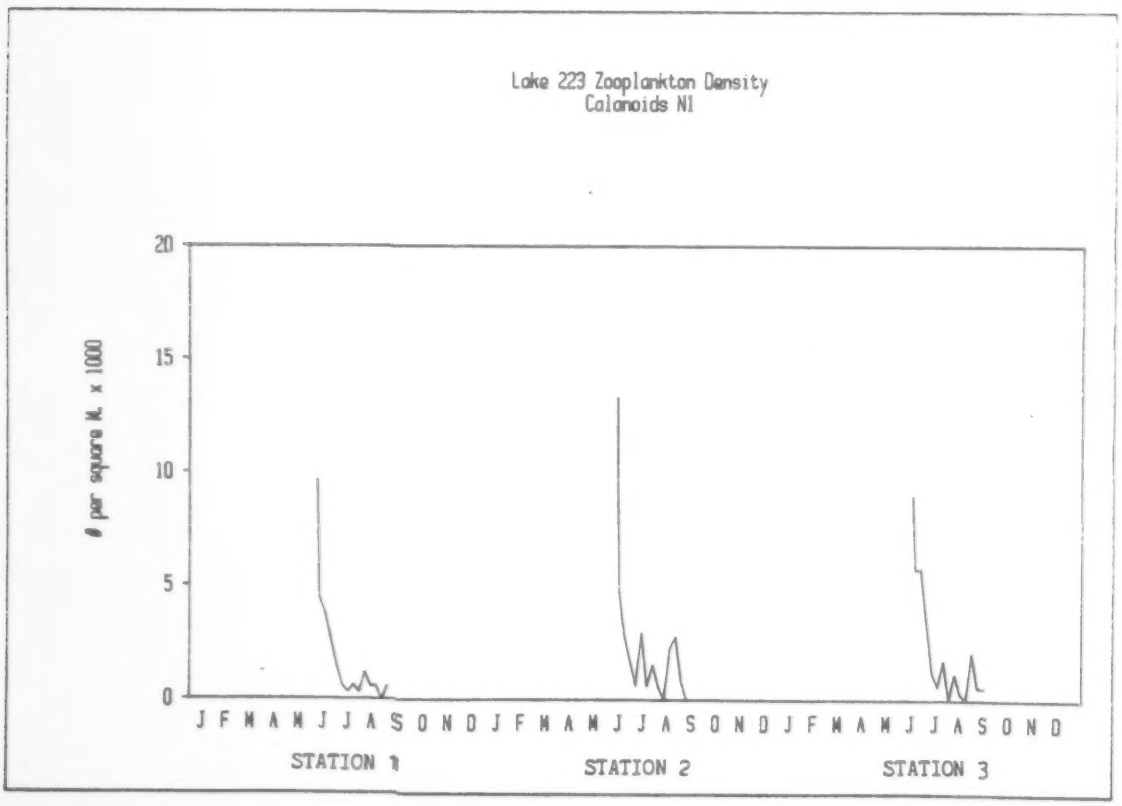

Lake 223 Zooplankton Density
Holopedium gibberum
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

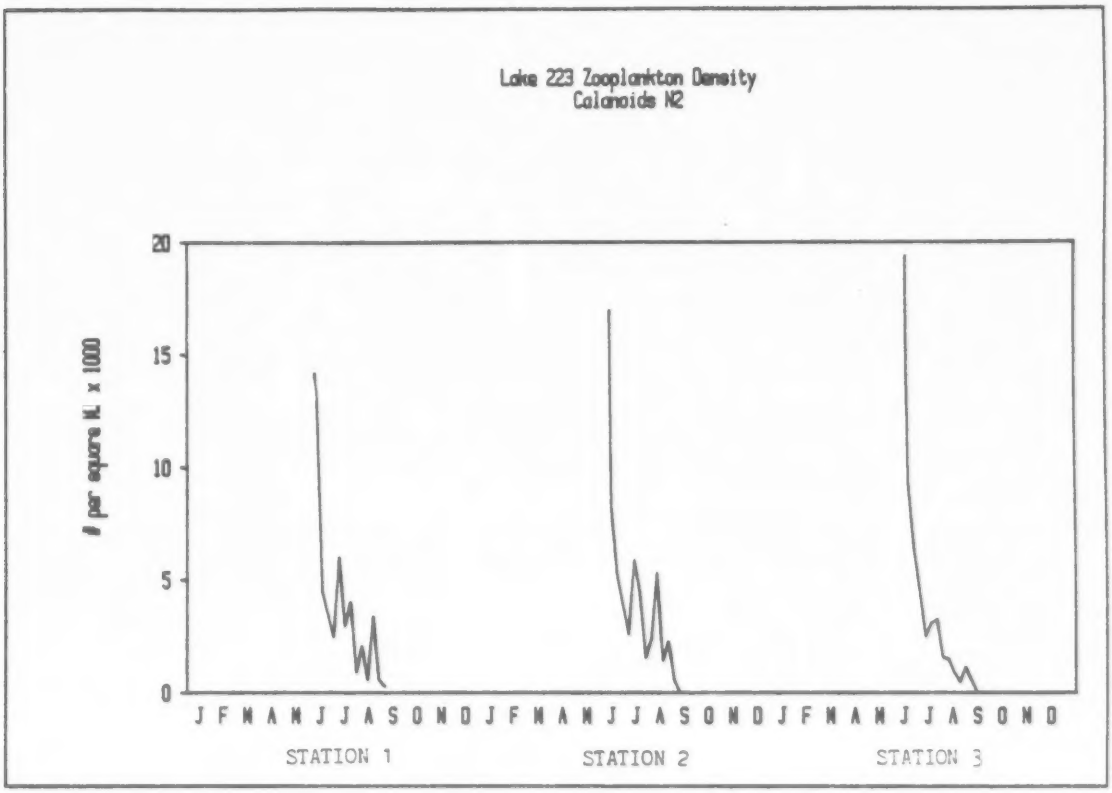

Lake 223 Zooplankton Density
Daphnia galeata mendotae
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

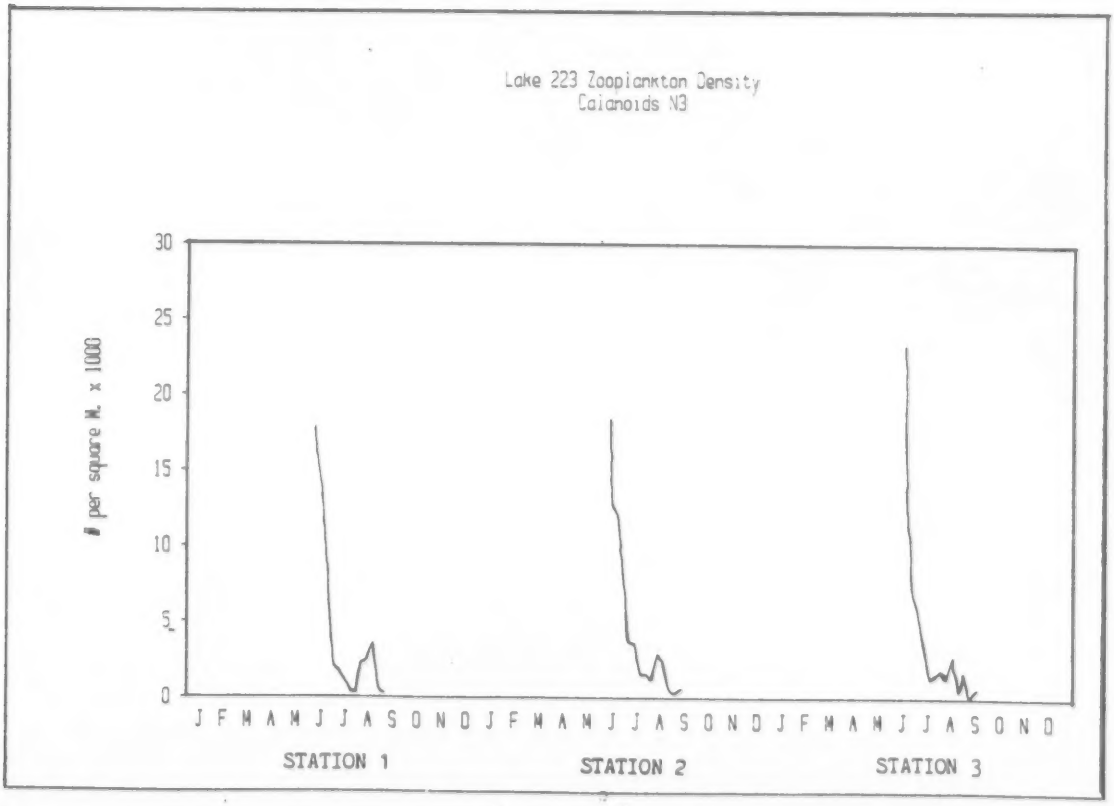

Lake 223 Zooplankton Density
Daphnia catawba
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

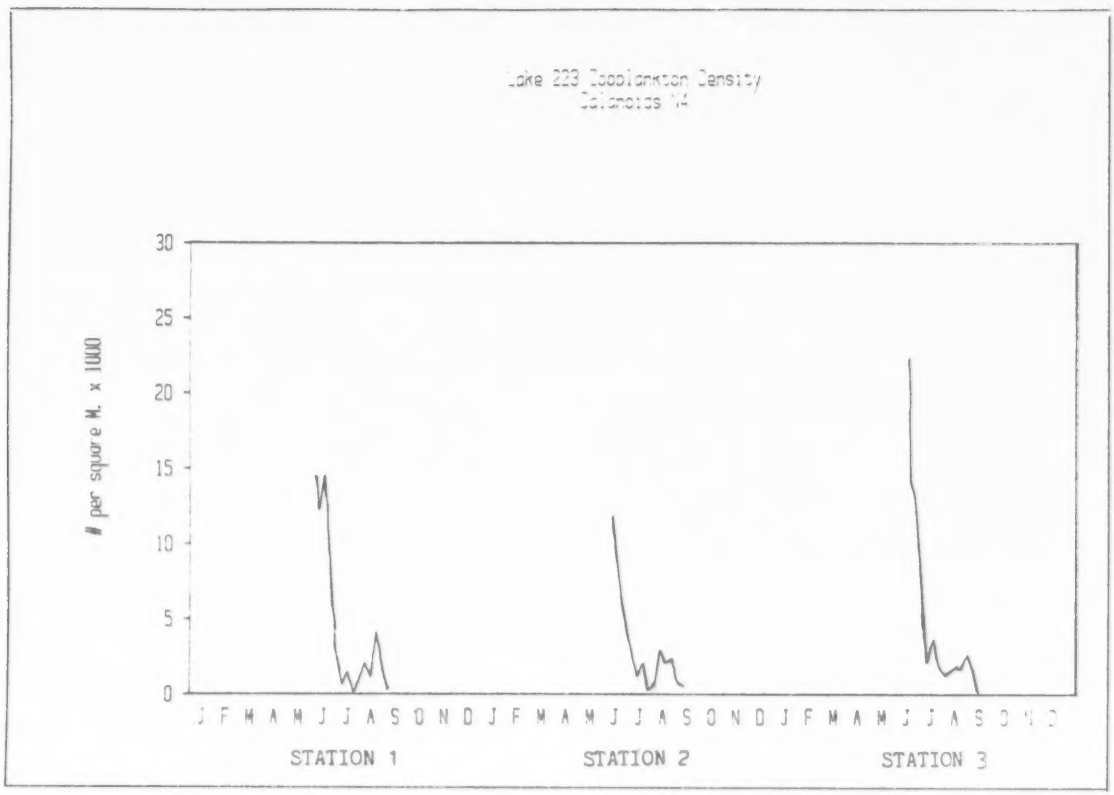

Lake 223 Zooplankton Density
Bosmina longirostris
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

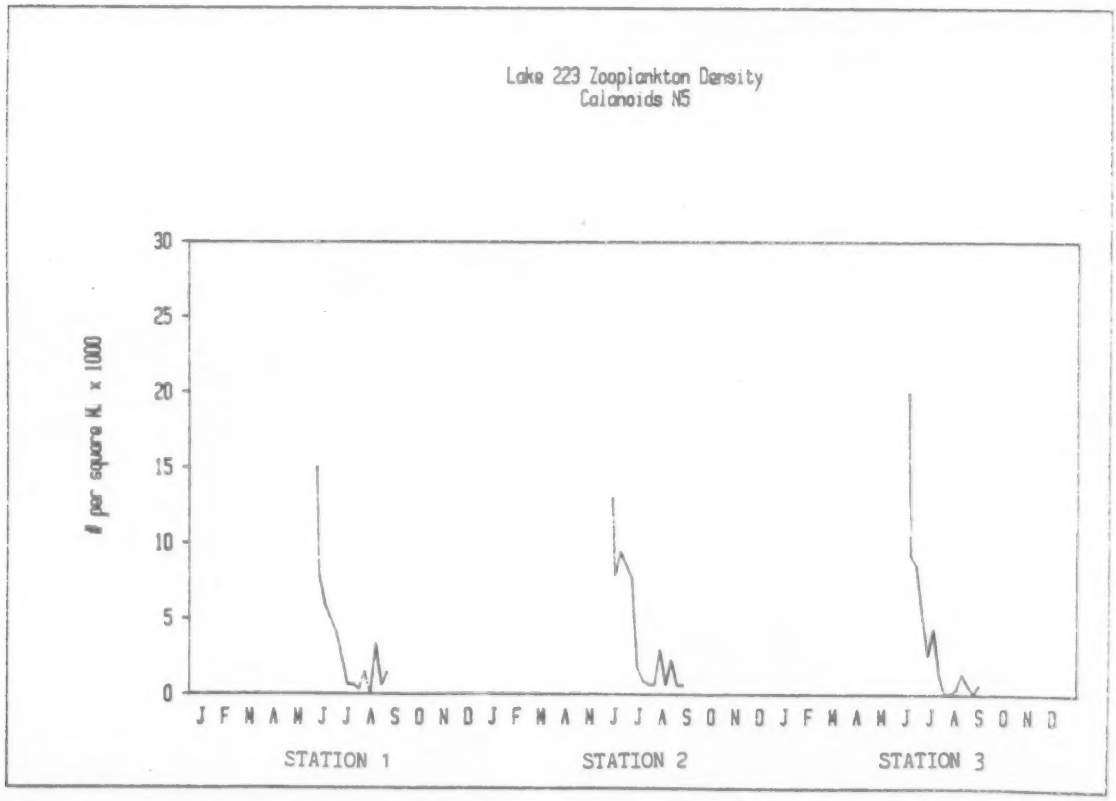

Lake 223 Zooplankton Density
Diaptomus minutus
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

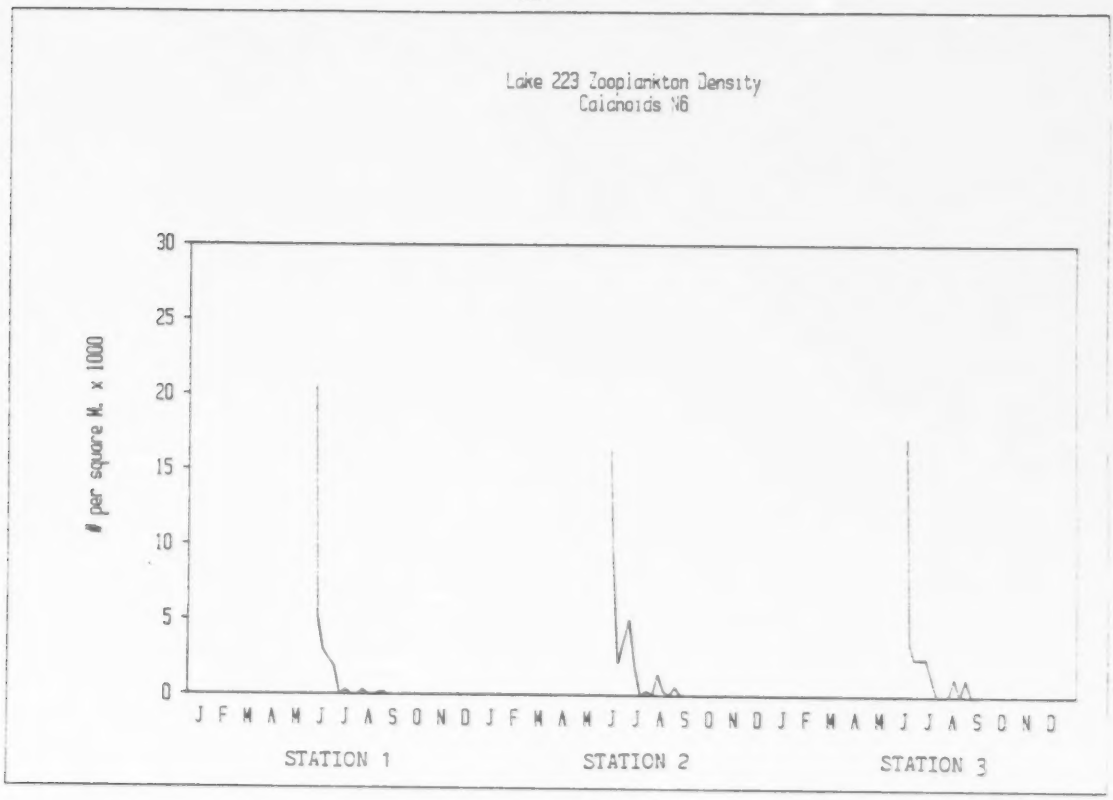

Lake 223 Zooplankton Density
Calanoids N1
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

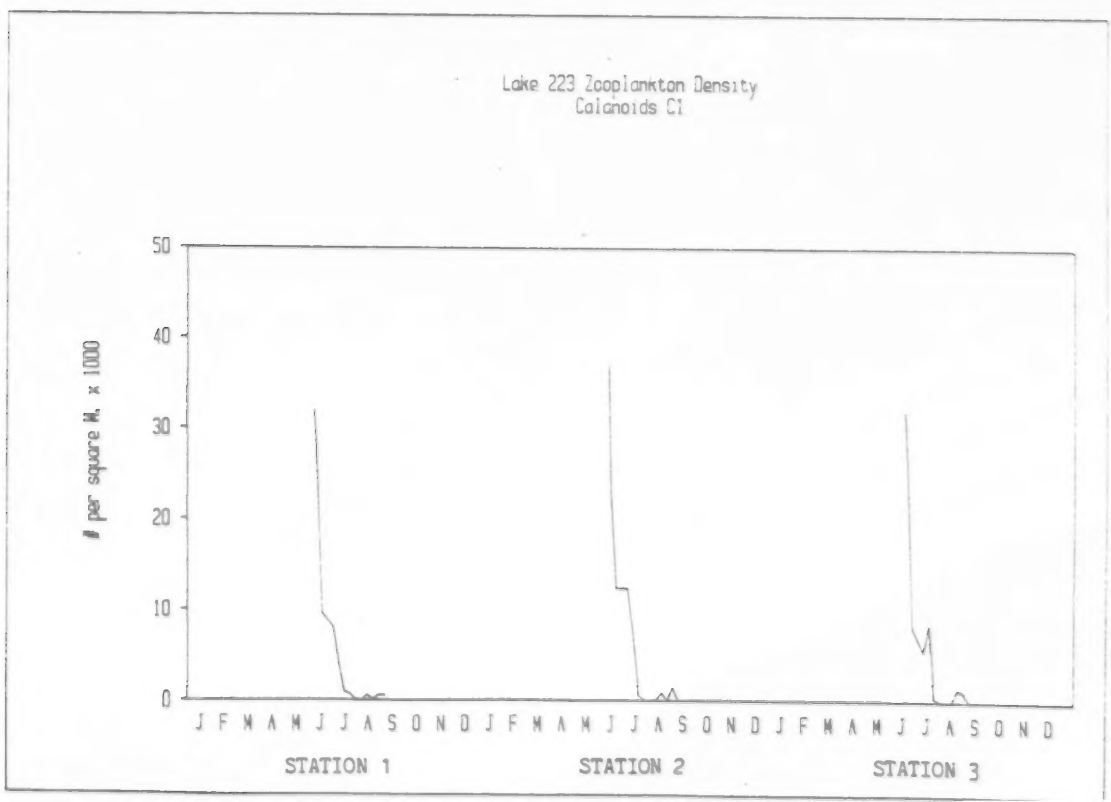

Lake 223 Zooplankton Density
Calanoids N2
per square M. x 1000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

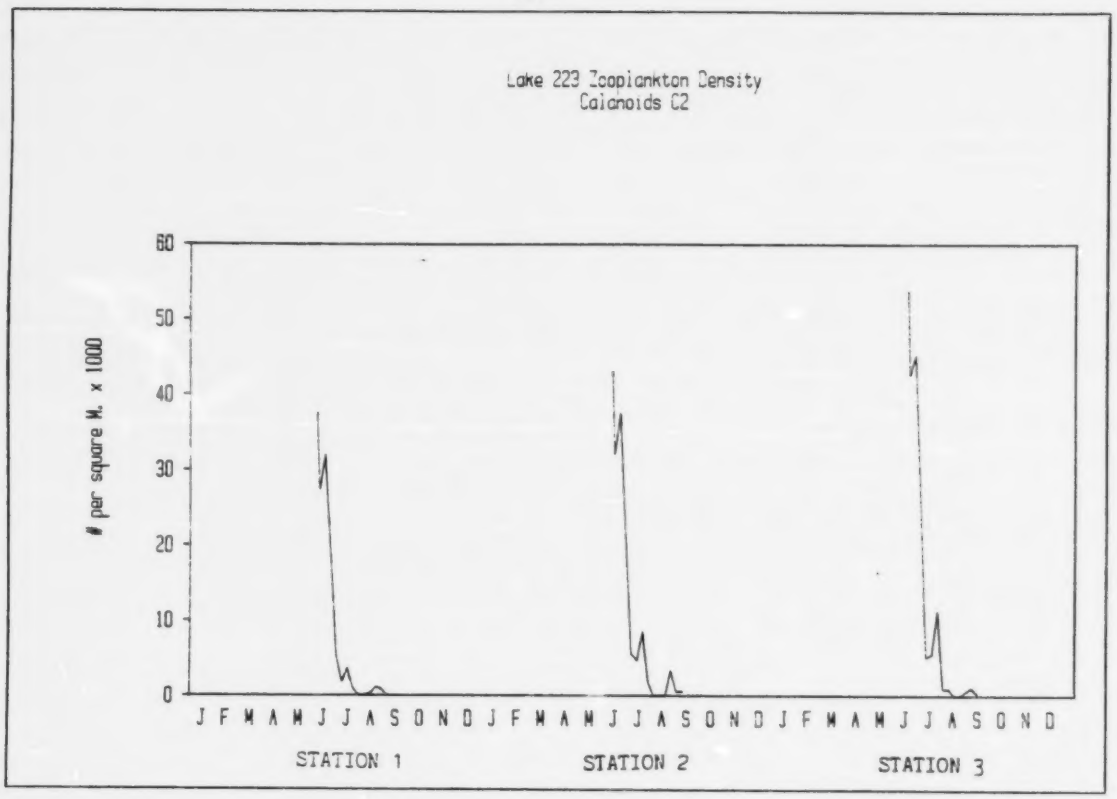

Lake 223 Zooplankton Density
Calanoids N3
per square M. x 1000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

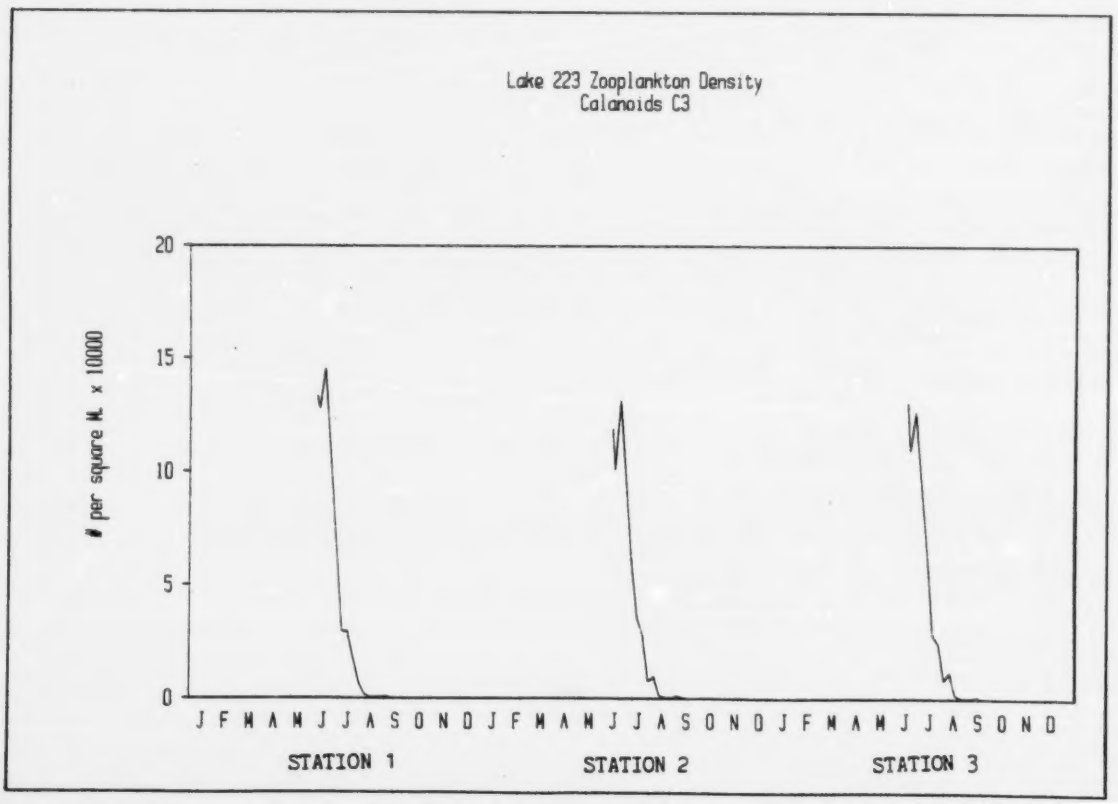

Lake 223 Zooplankton Density
Calanoids N4
per square M. x 1000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

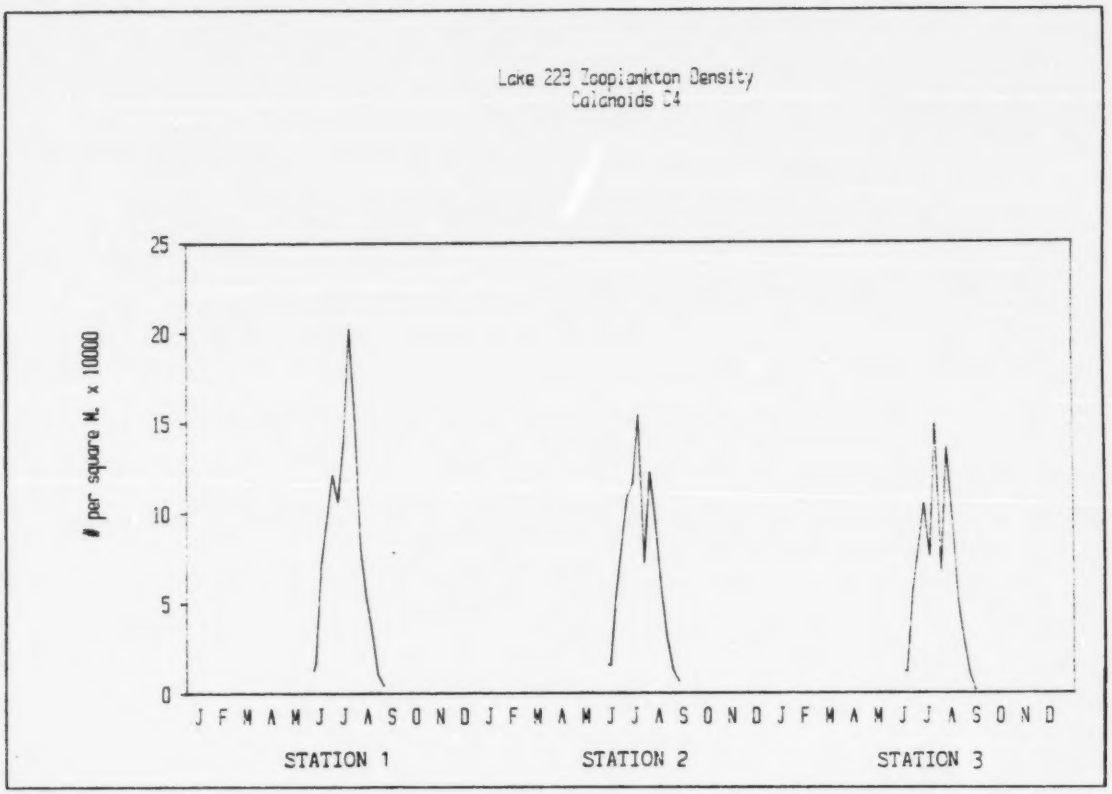

Lake 223 Zooplankton Density
Calanoids N5
per square M. x 1000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

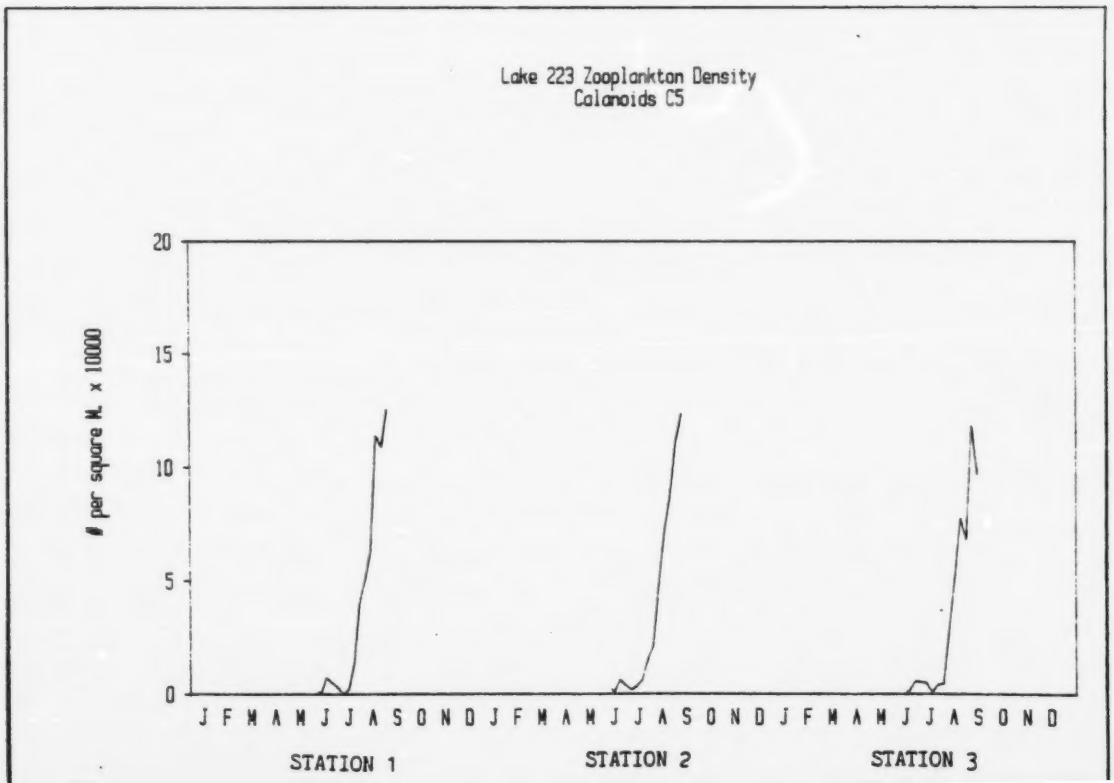

Lake 223 Zooplankton Density
Calanoids N6
per square M. x 1000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

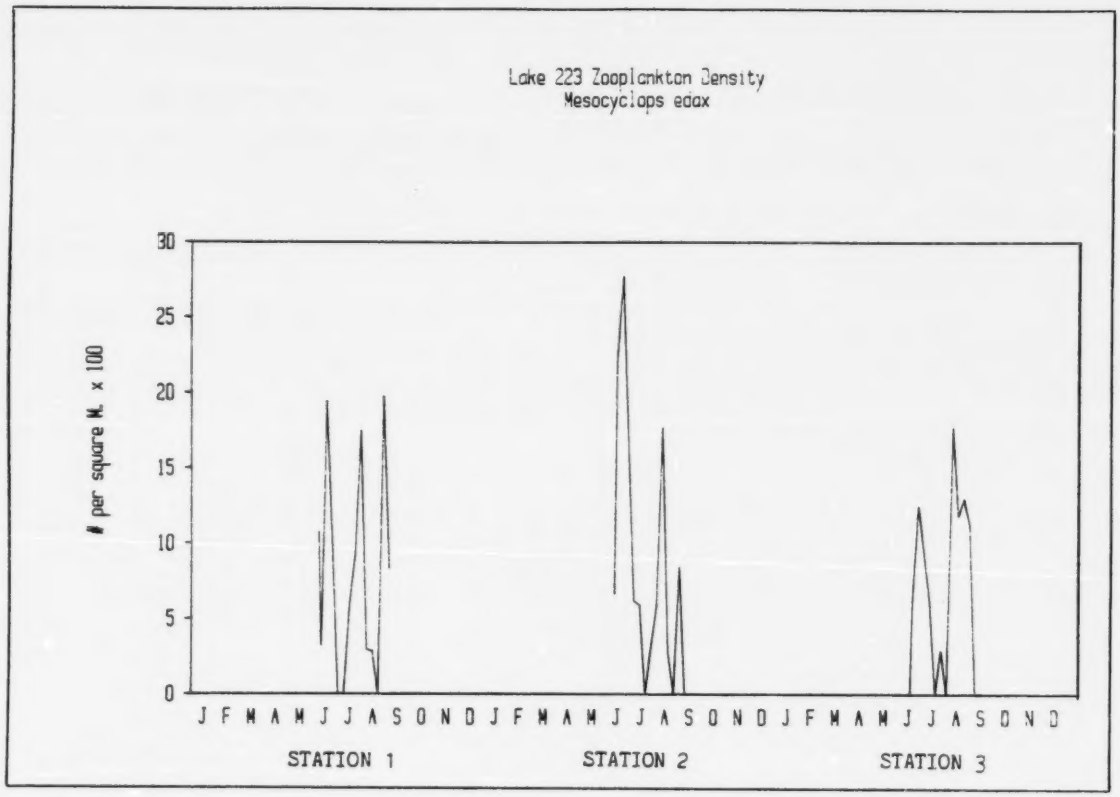

Lake 223 Zooplankton Density
Calanoids C1
per square M. x 1000
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

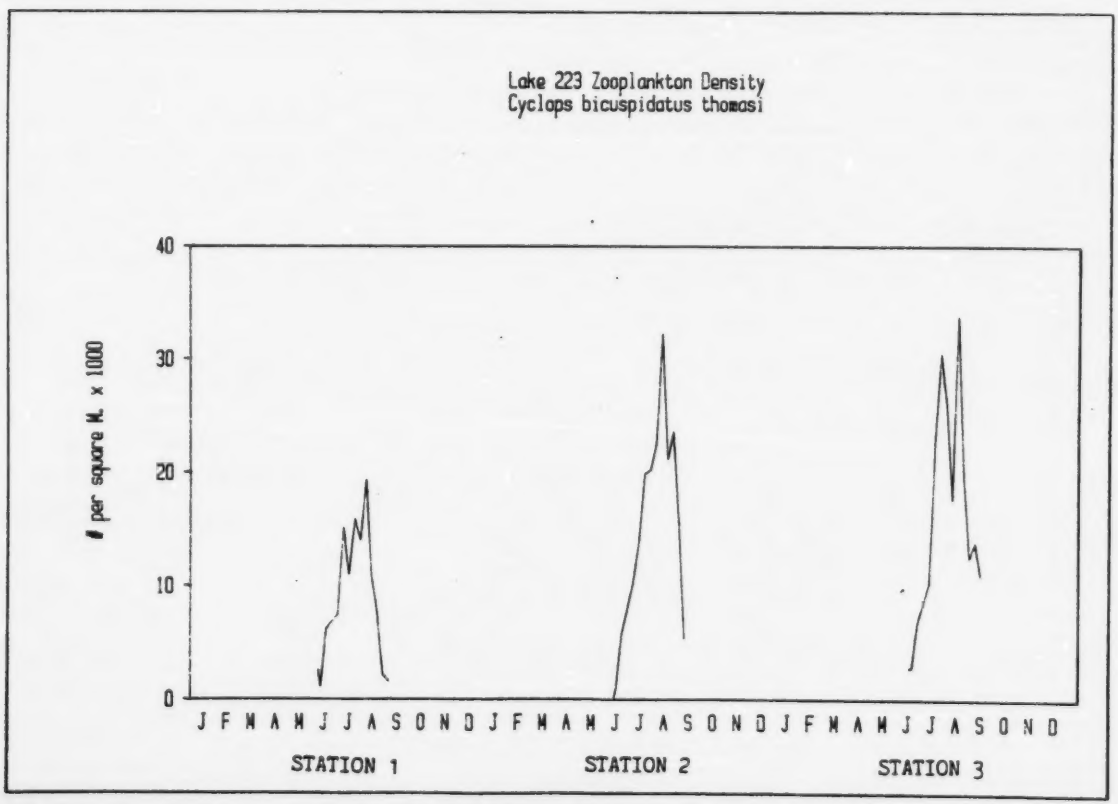

Lake 223 Zooplankton Density
Calanoids C2
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

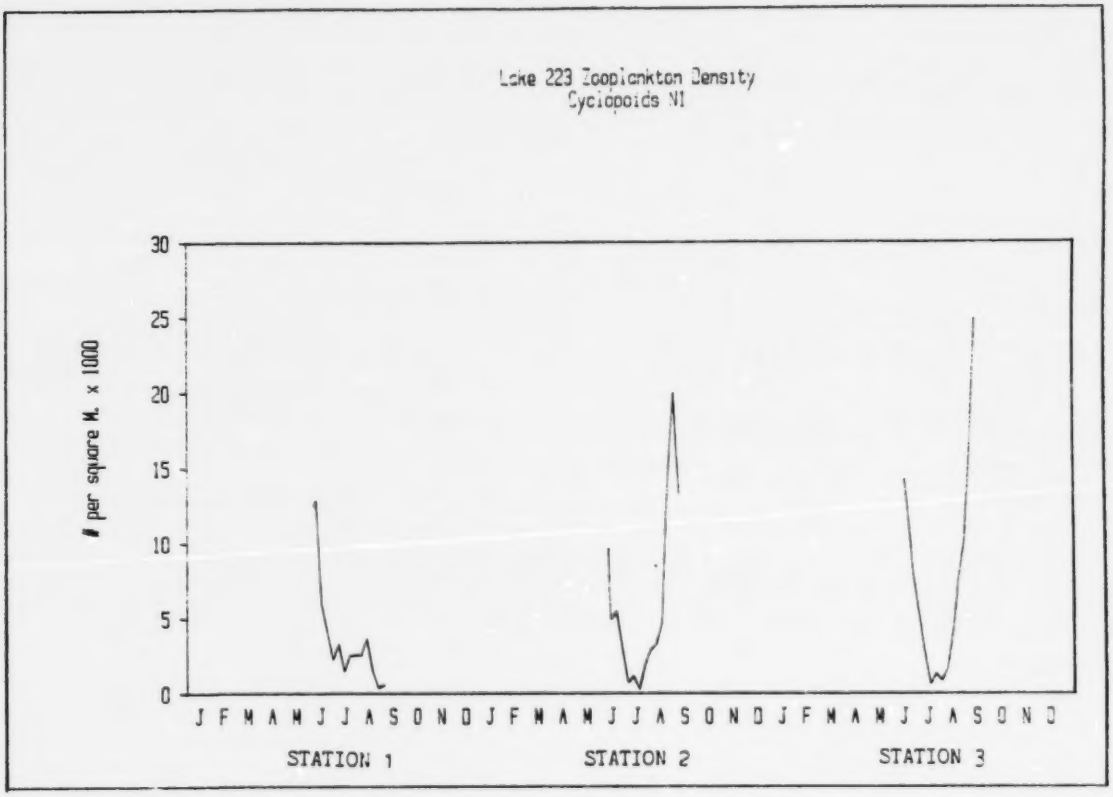

Lake 223 Zooplankton Density
Calanoids C3
per square M. x 10000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

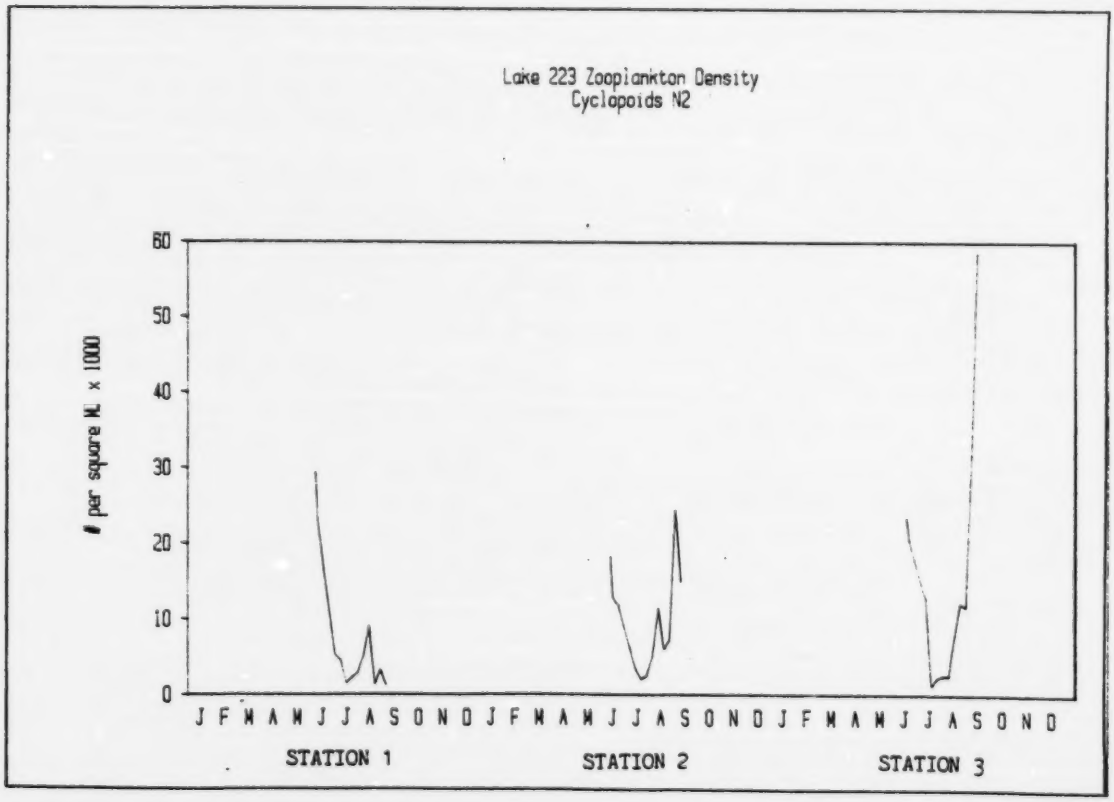

Lake 223 Zooplankton Density
Calanoids C4
per square M. x 10000
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

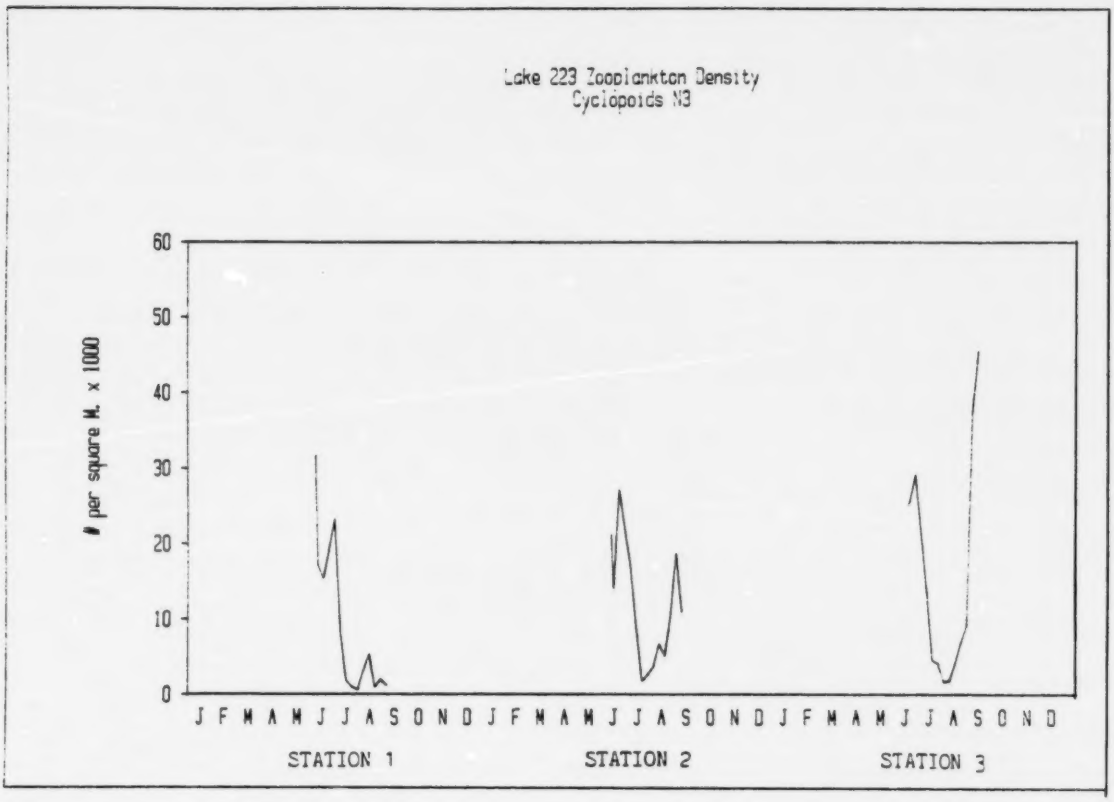

Lake 223 Zooplankton Density
Calanoids C5
per square M. x 10000
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

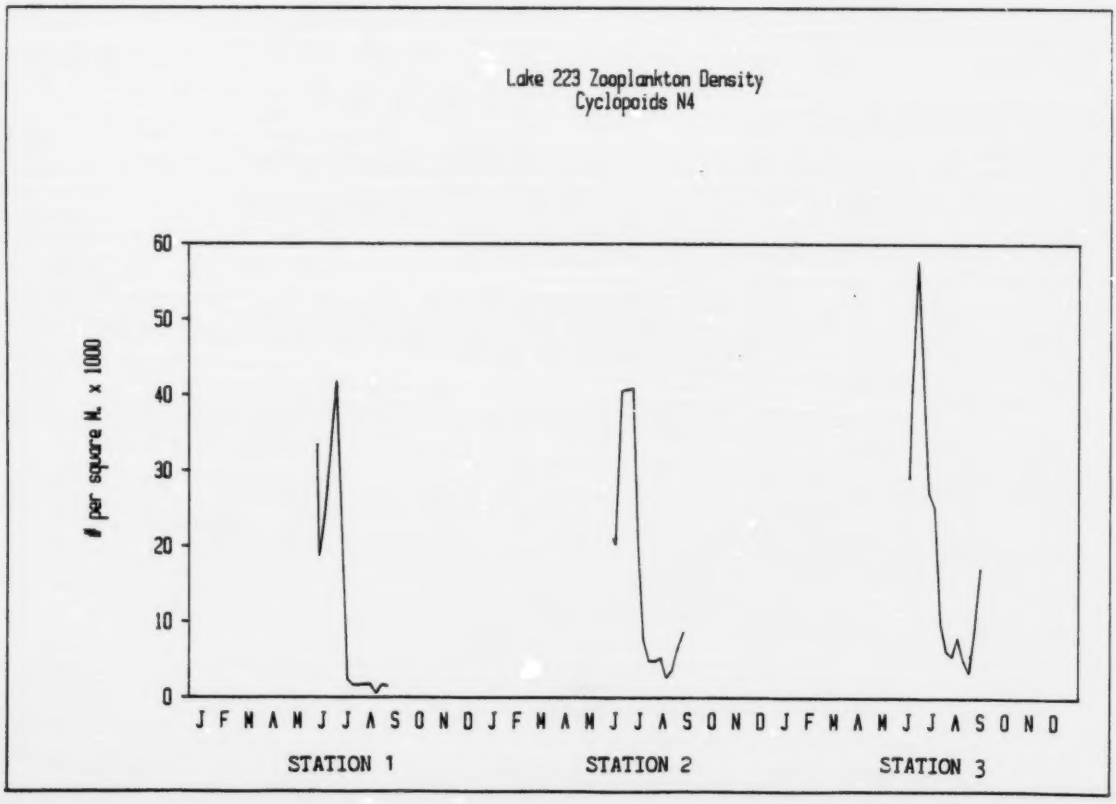

Lake 223 Zooplankton Density
Mesocyclops edax
per square M. x 100
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

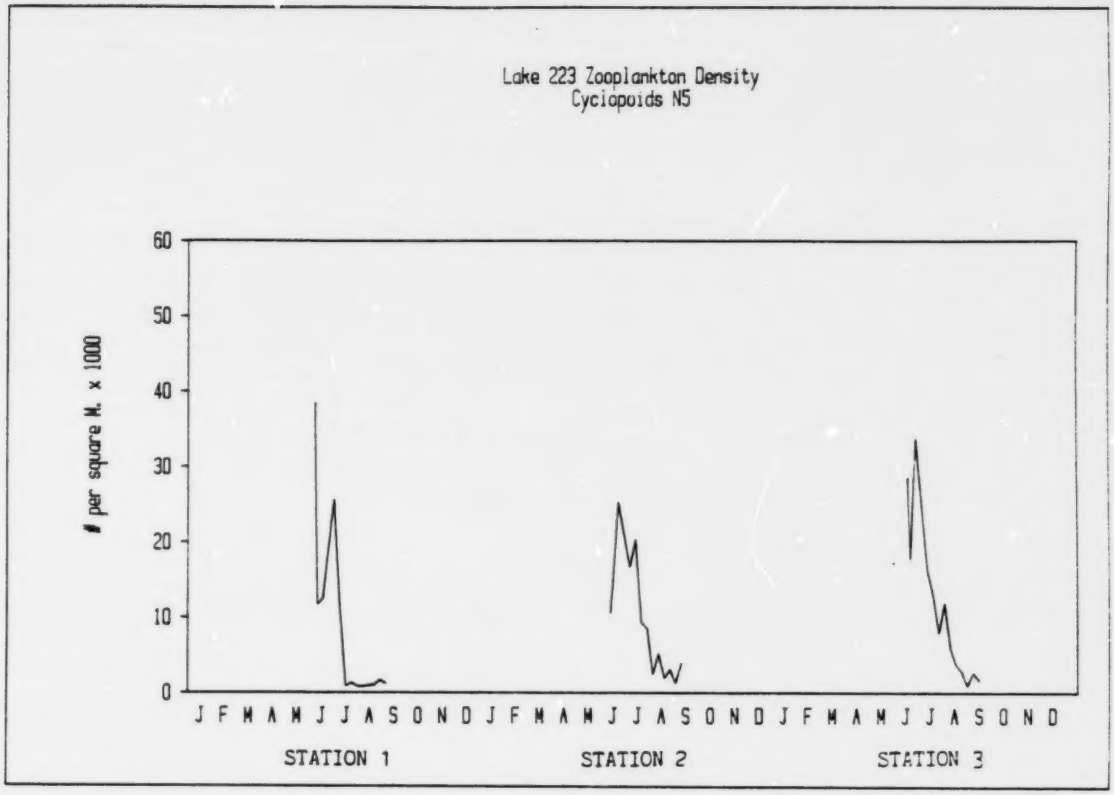

Lake 223 Zooplankton Density
Cyclops bicuspidatus thomasi
per square M. x 1000
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

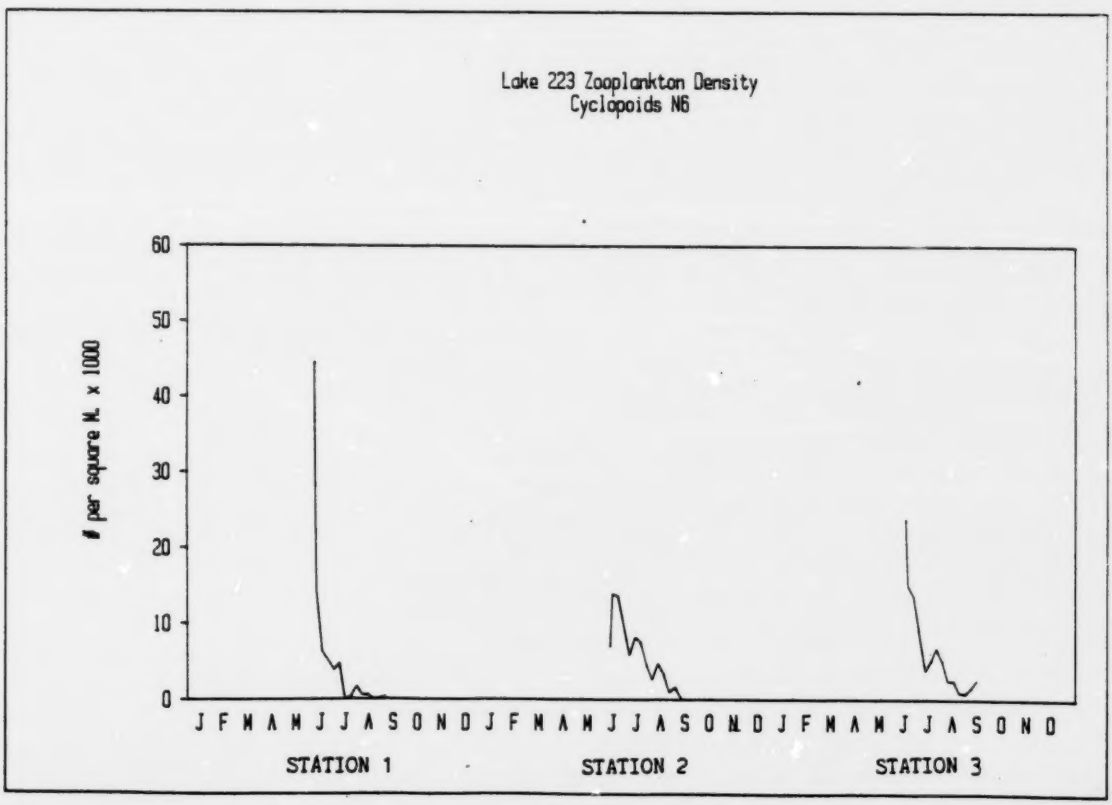

Lake 223 Zooplankton Density
Cyclopoids N1
per square M. x 1000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

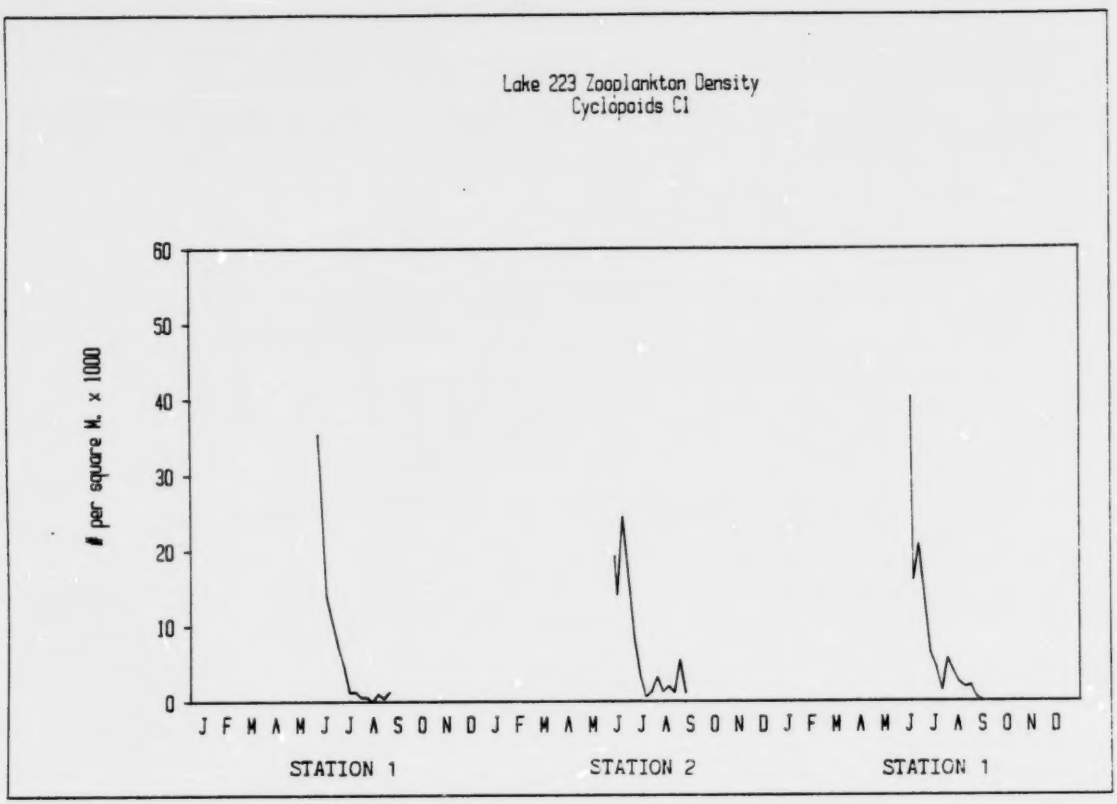

Lake 223 Zooplankton Density
Cyclopoids N2
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

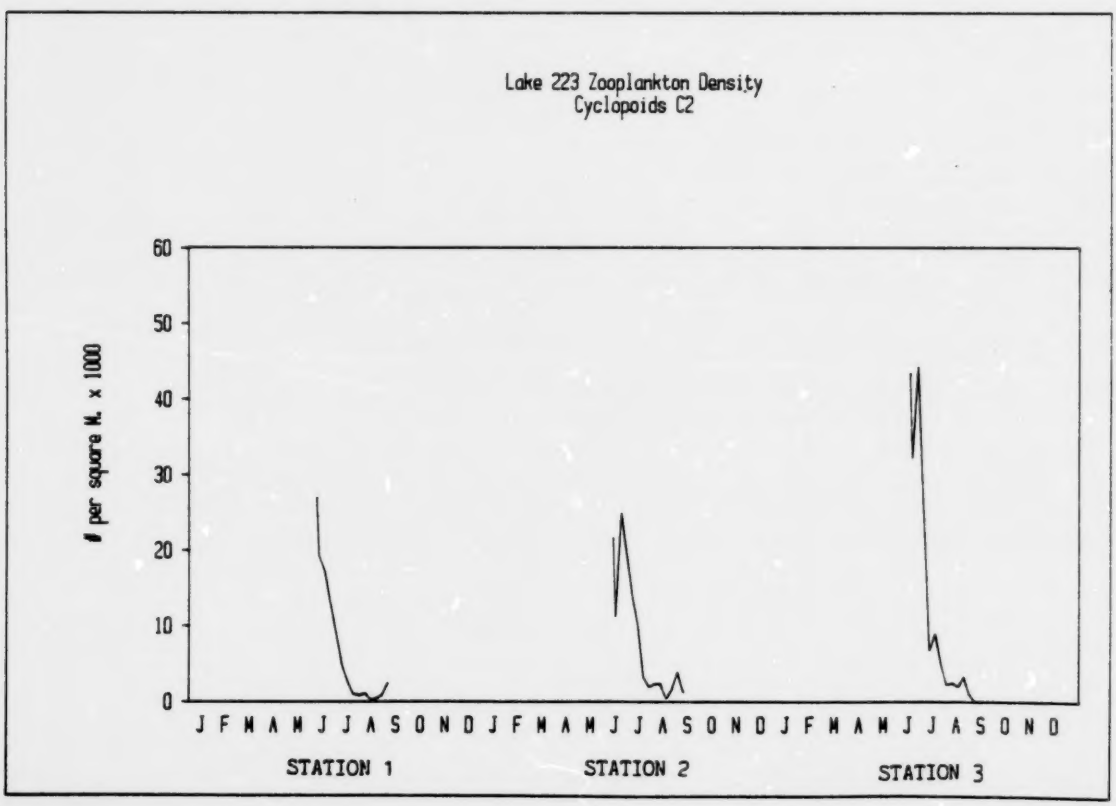

Lake 223 Zooplankton Density
Cyclopoids N3
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

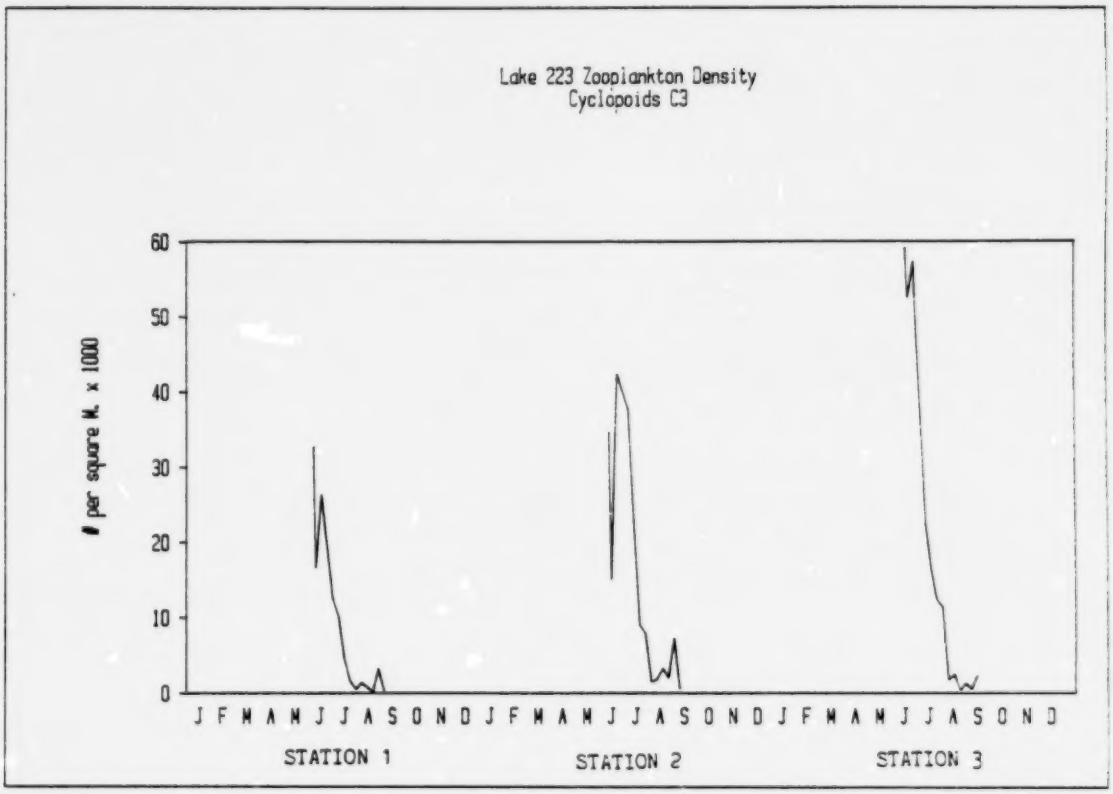

Lake 223 Zooplankton Density
Cyclopoids N4
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

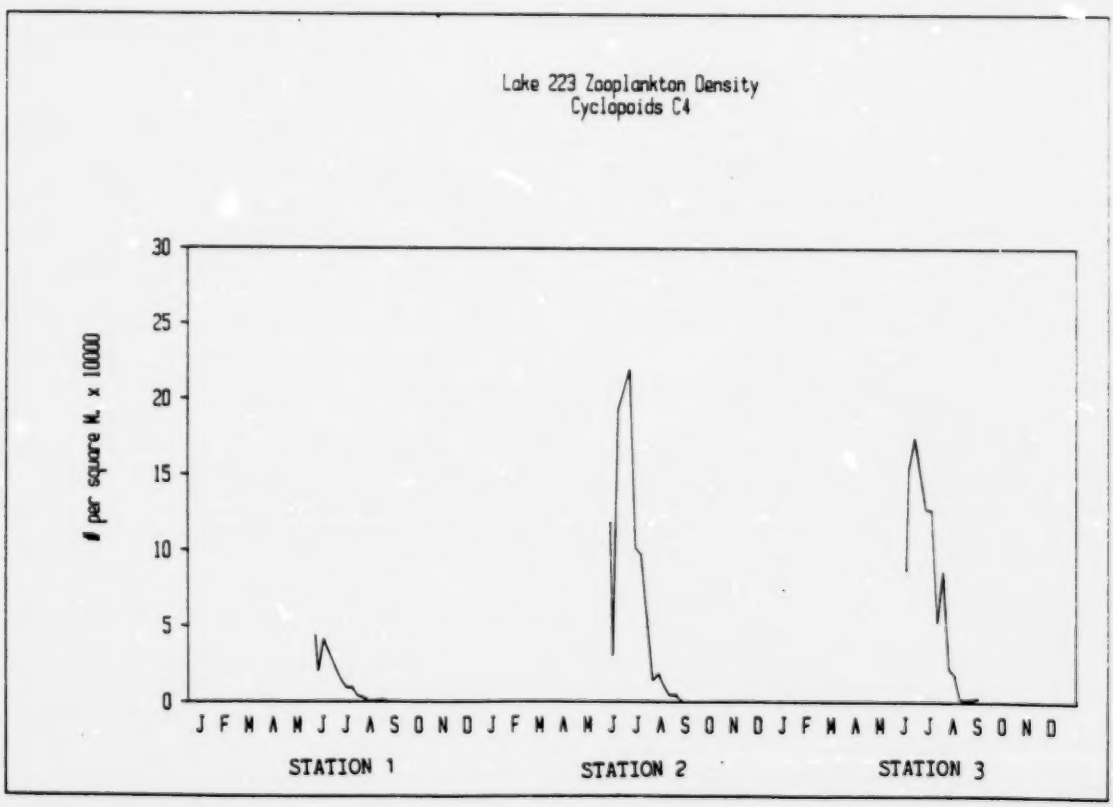

Lake 223 Zooplankton Density
Cyclopoids N5
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

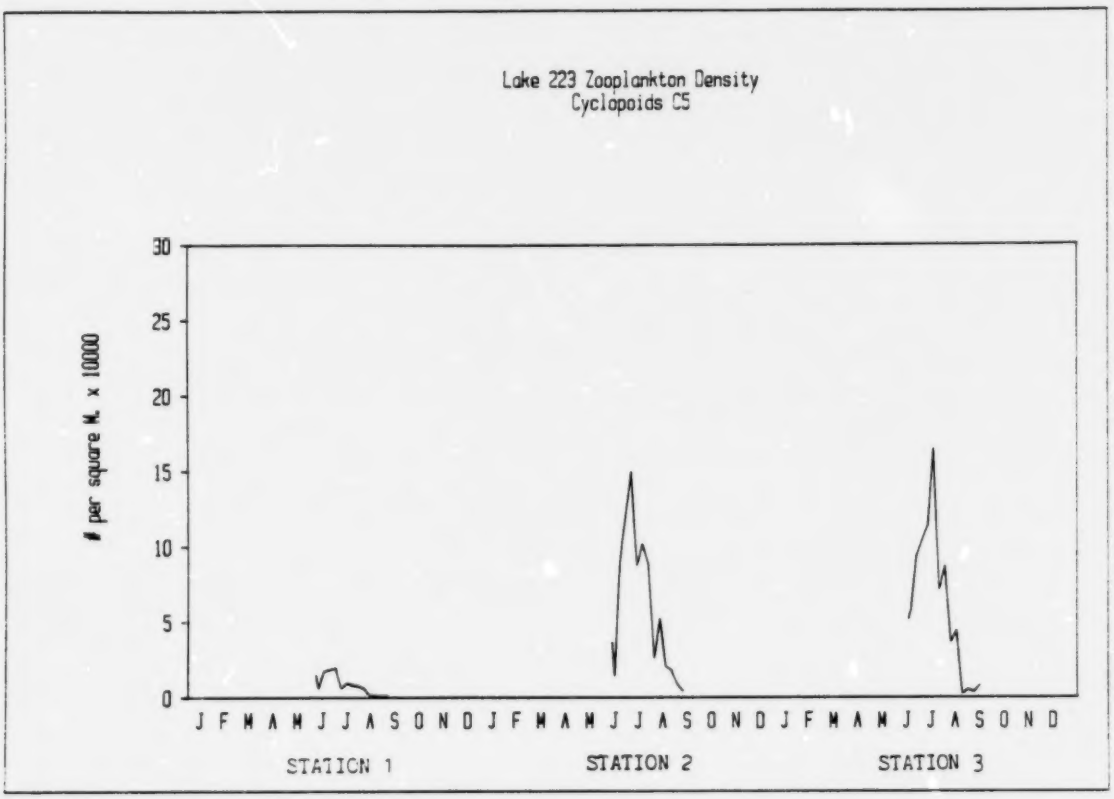

Lake 223 Zooplankton Density
Cyclopoids N6
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

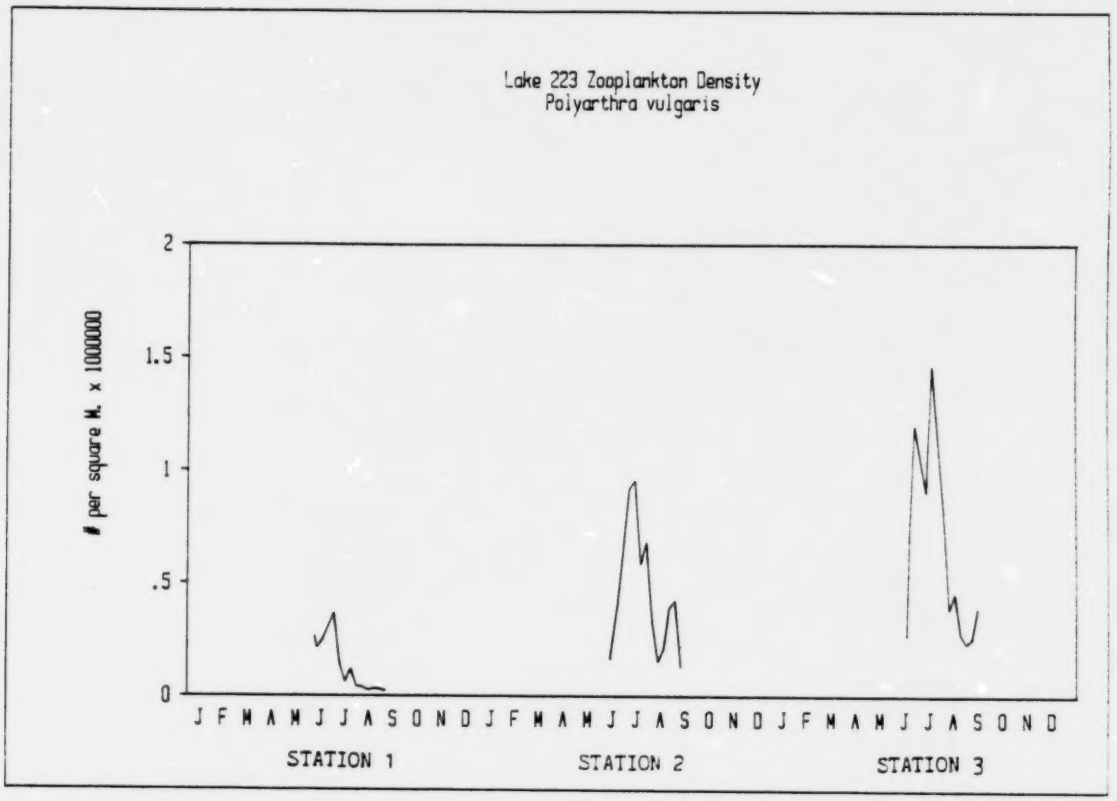

Lake 223 Zooplankton Density
Cyclopoids C1
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 1

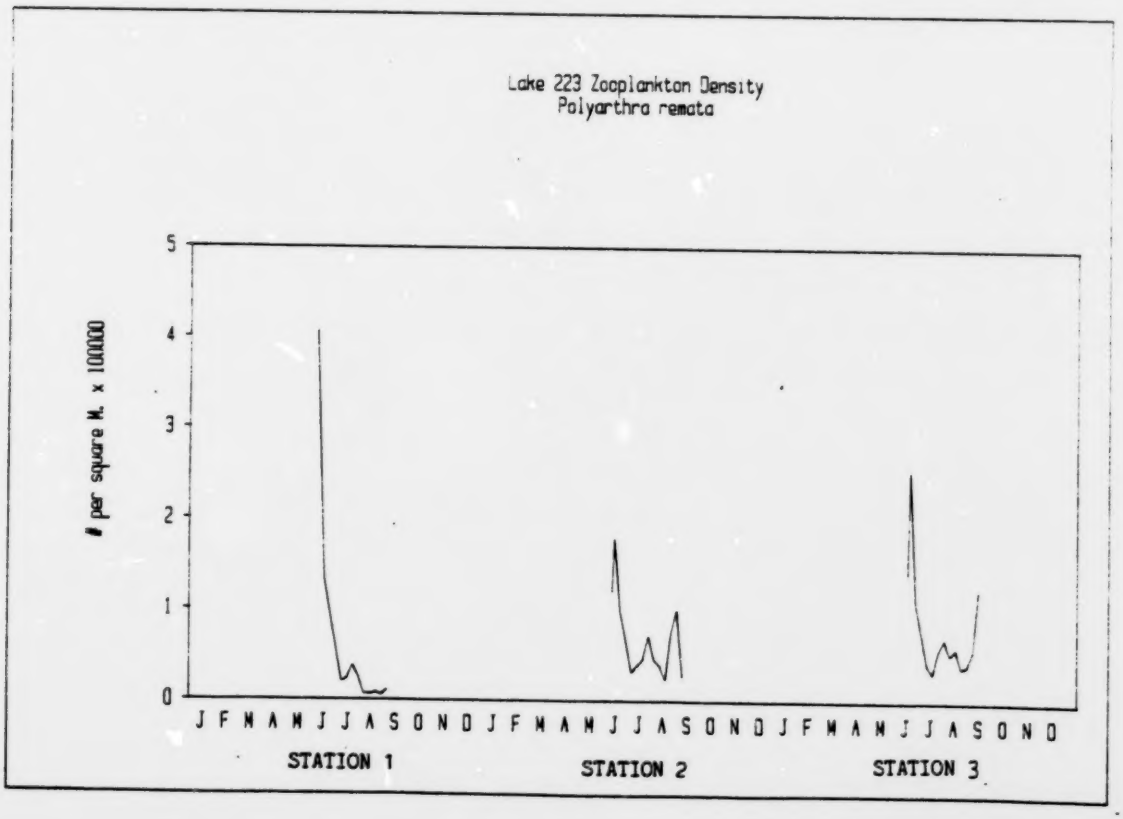

Lake 223 Zooplankton Density
Cyclopoids C2
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

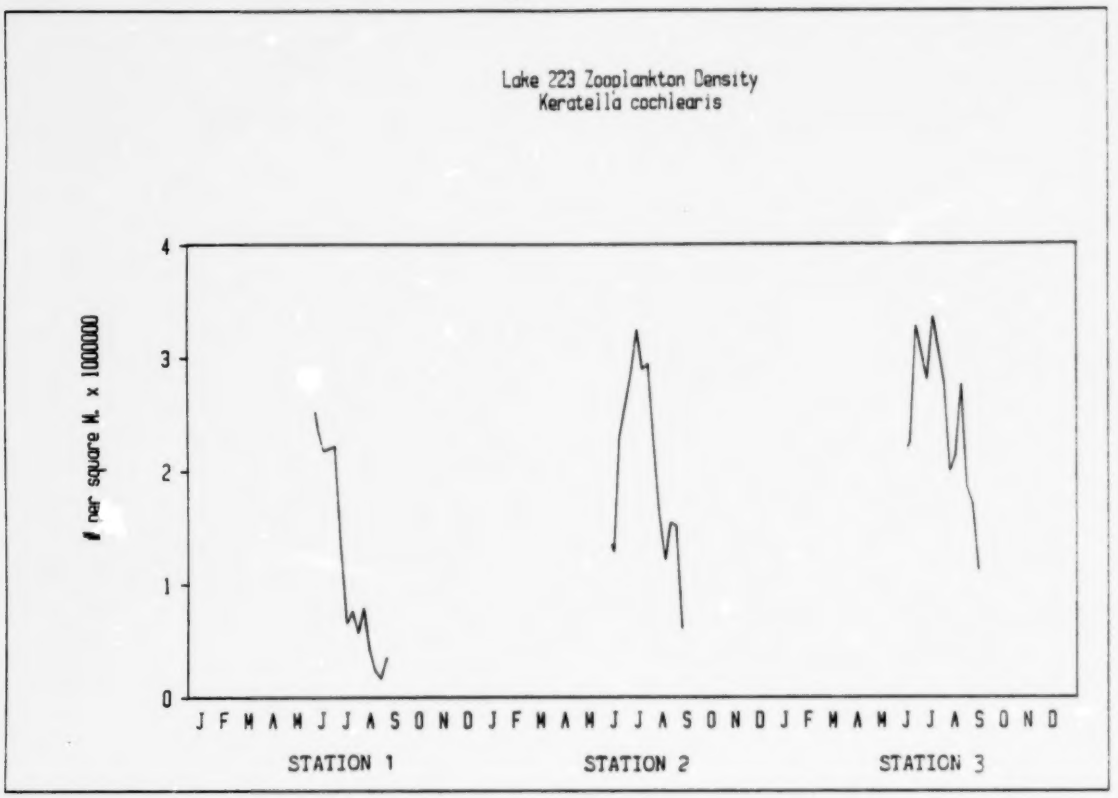

Lake 223 Zooplankton Density
Cyclopoids C3
per square M. x 1000
60
50
40
30
20
10
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

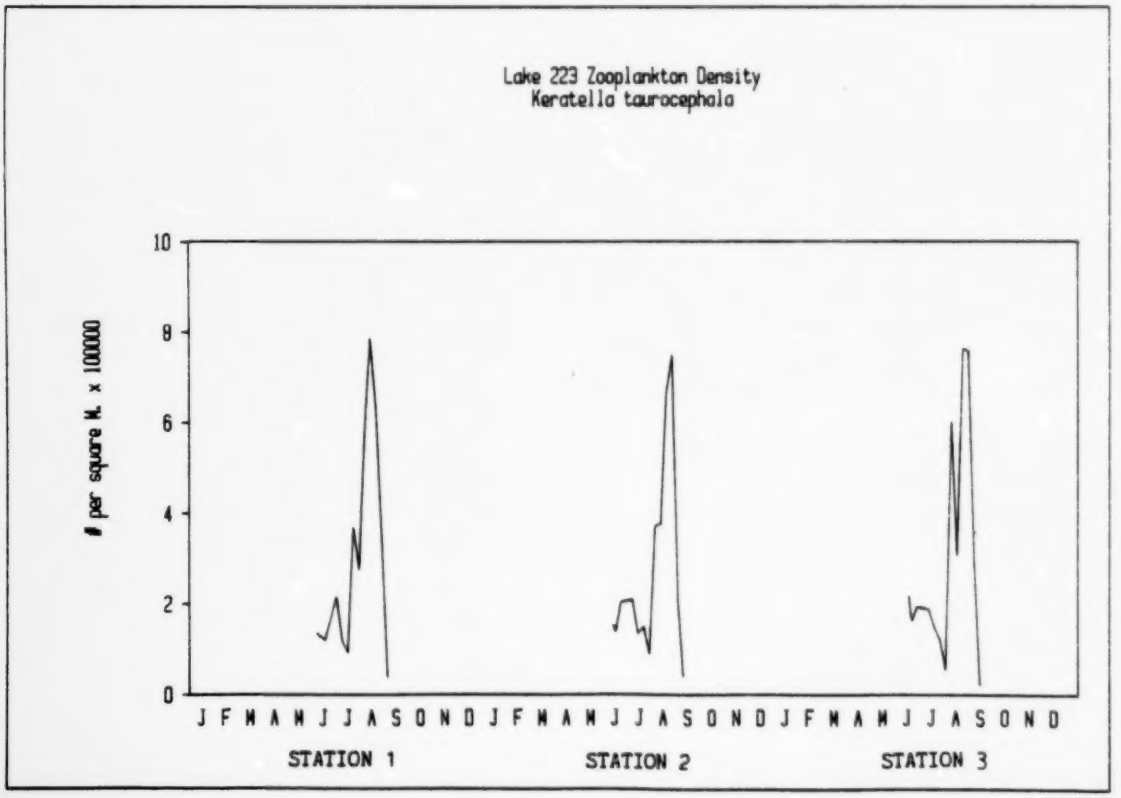

Lake 223 Zooplankton Density
Cyclopoids C4
per square M. x 10000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

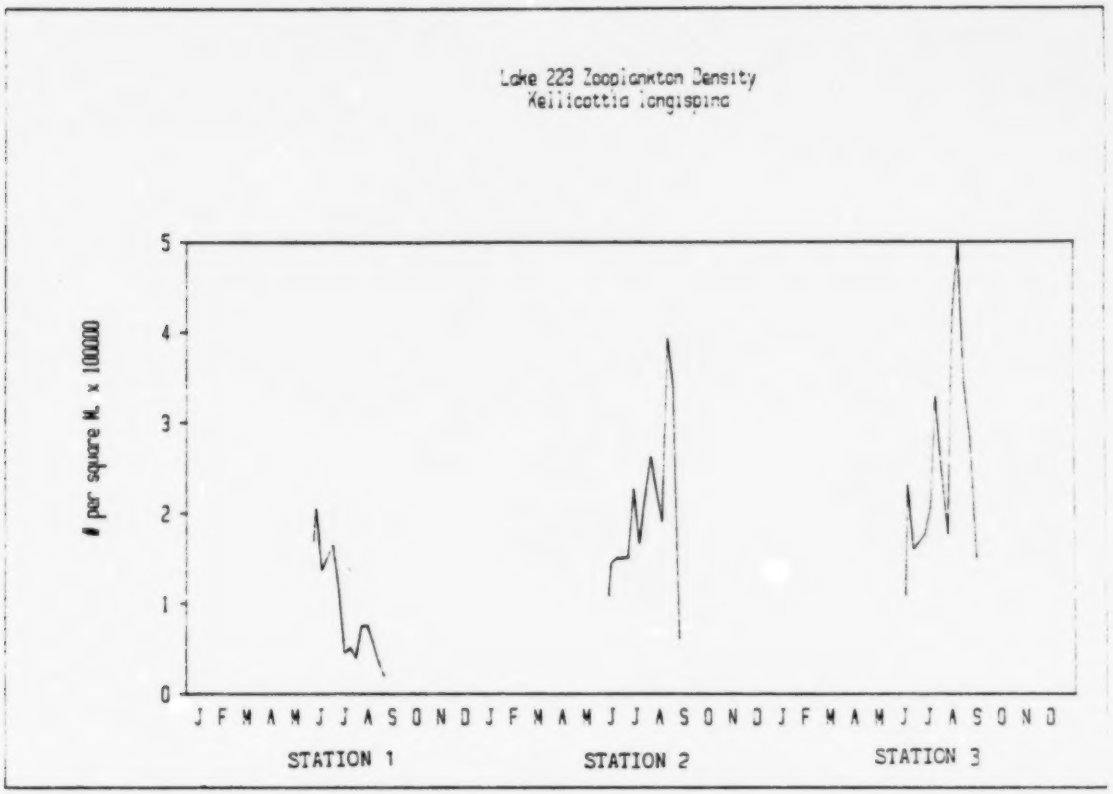

Lake 223 Zooplankton Density
Cyclopoids CS
per square M. x 10000
30
25
20
15
10
5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

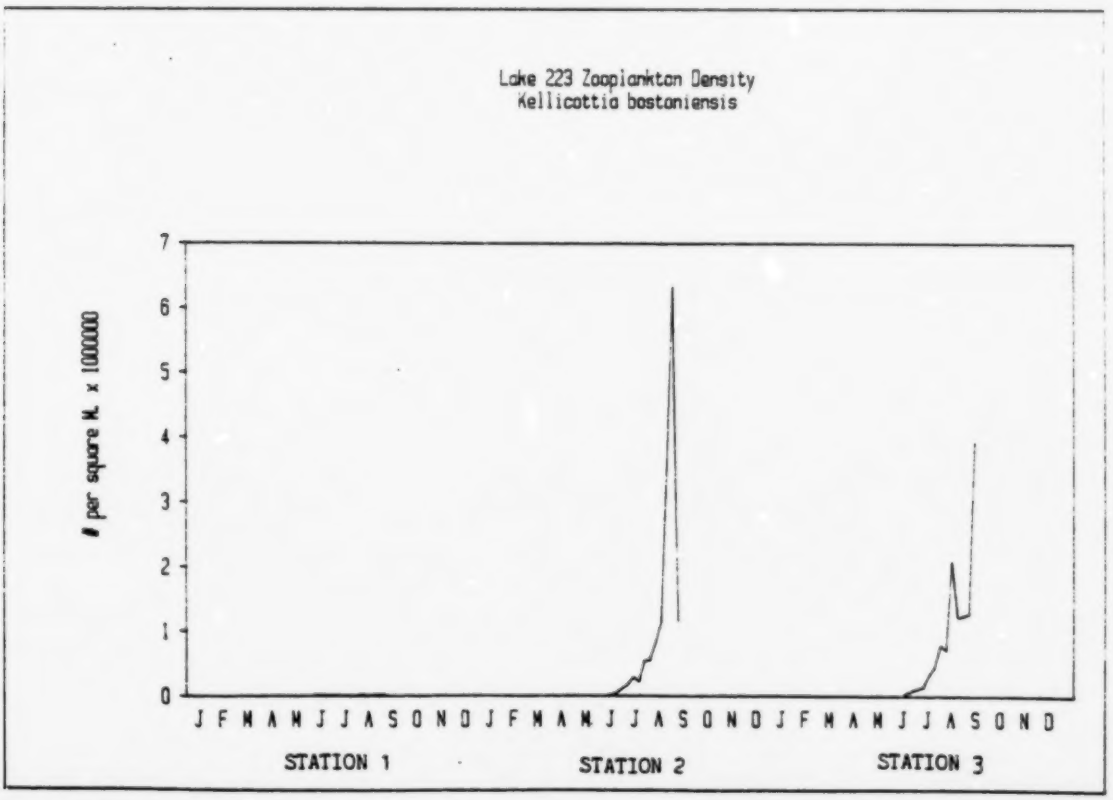

Lake 223 Zooplankton Density
Polyarthra vulgaris
per square M. x 1000000
2
1.5
1
.5
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3


Lake 223 Zooplankton Density
Polyarthra remata
per square M. x 100000
5
4
3
2
1
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3


Lake 223 Zooplankton Density
Keratella cochlearis
per square M. x 1000000
0
1
2
3
4
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

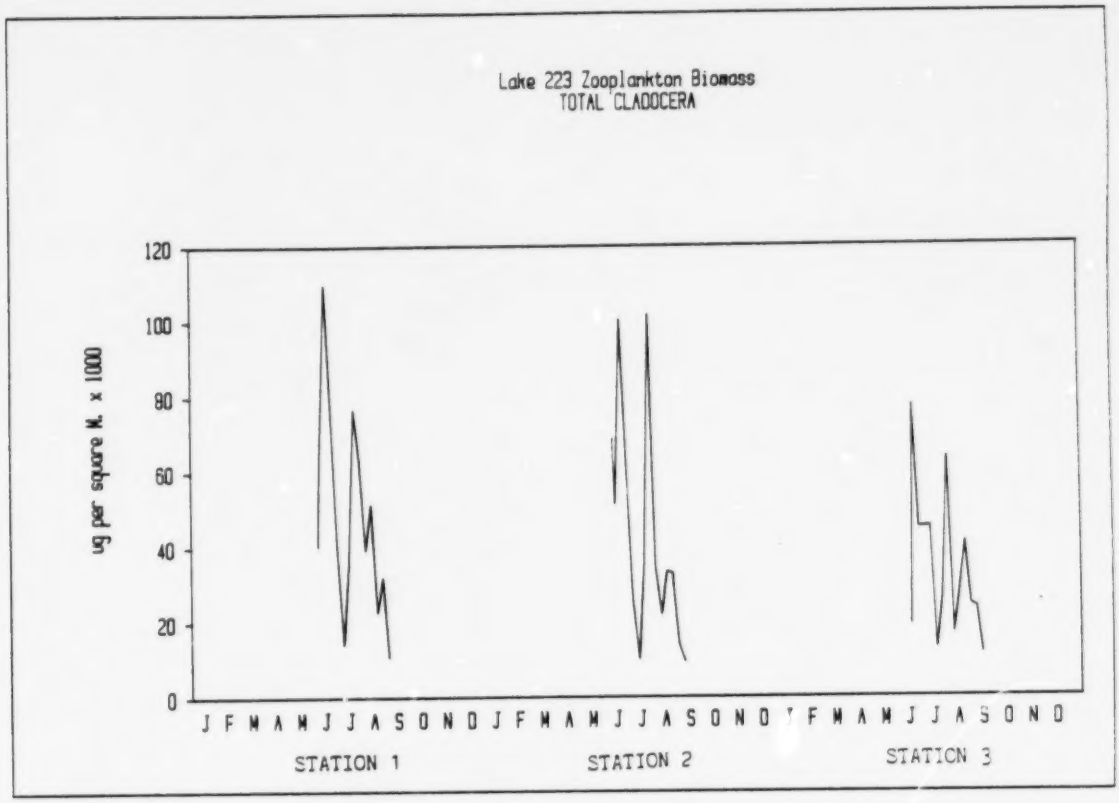

Lake 223 Zooplankton Density
Keratella taurocephala
per square M. x 100000
0
2
4
6
8
10
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

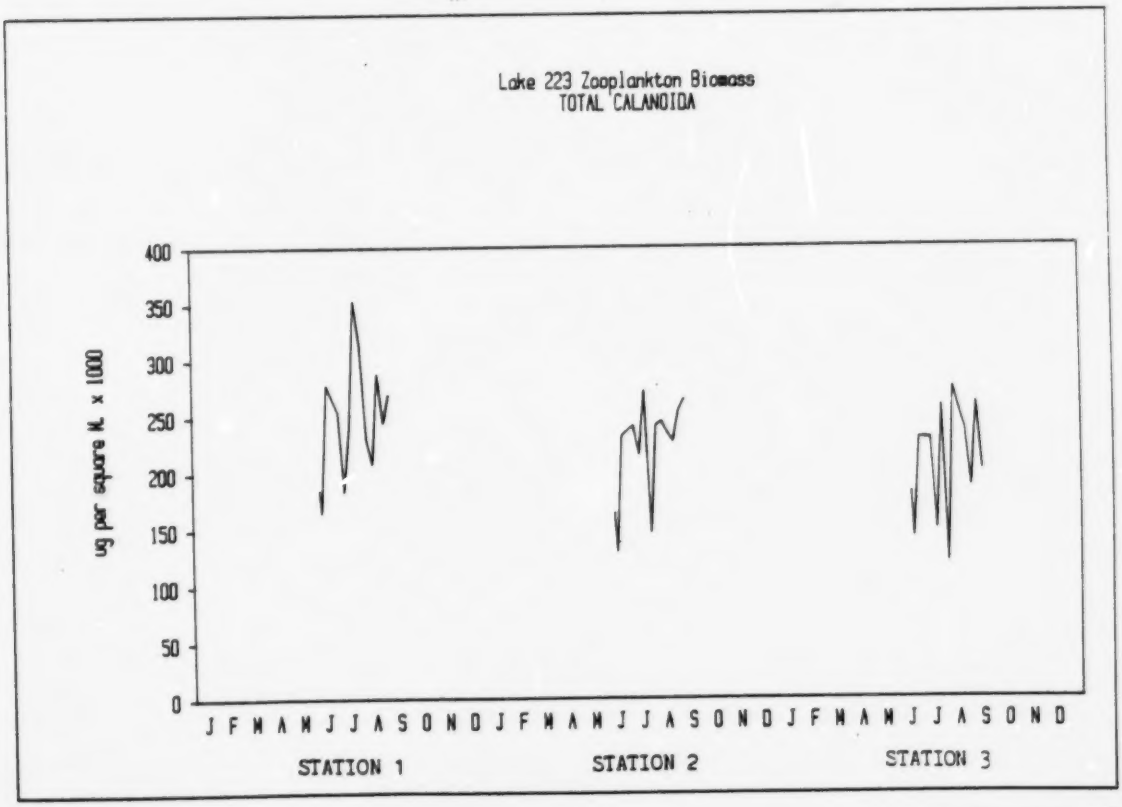

Lake 223 Zooplankton Density
Kellicottia longispina
per square M. x 100000
0
1
2
3
4
5
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

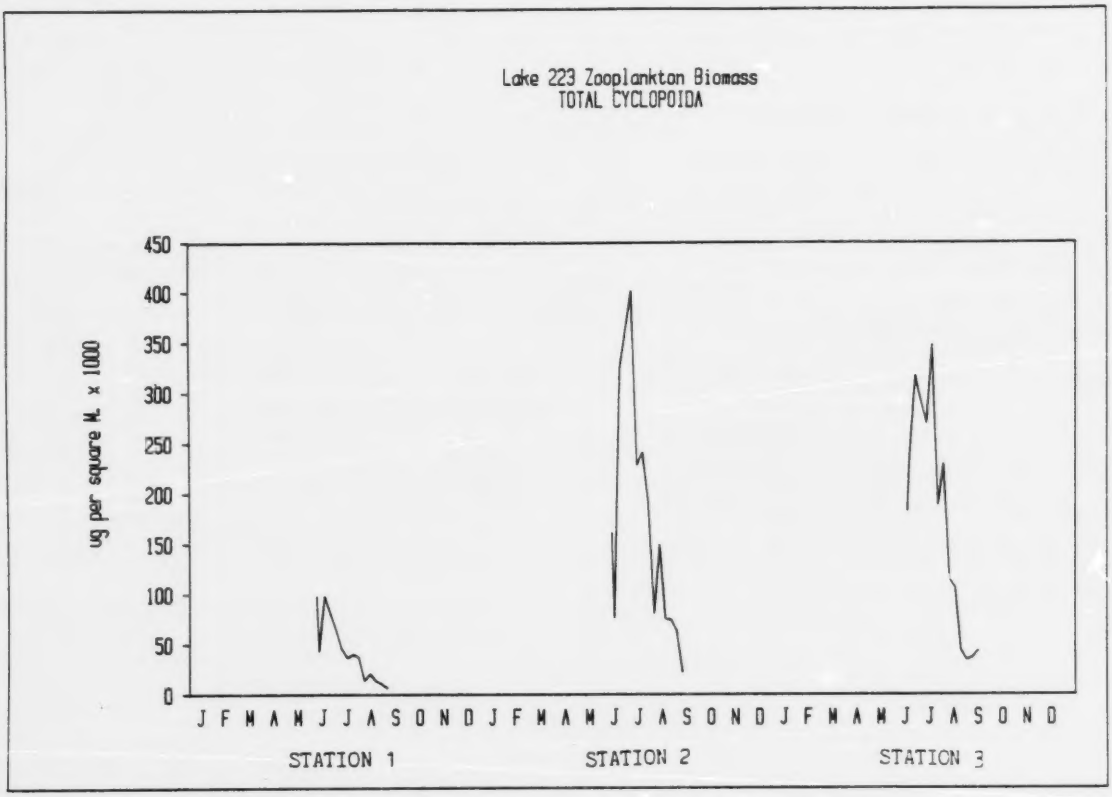

Lake 223 Zooplankton Density
Kellicottia bostoniensis
per square M. x 1000000
0
1
2
3
4
5
6
7
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

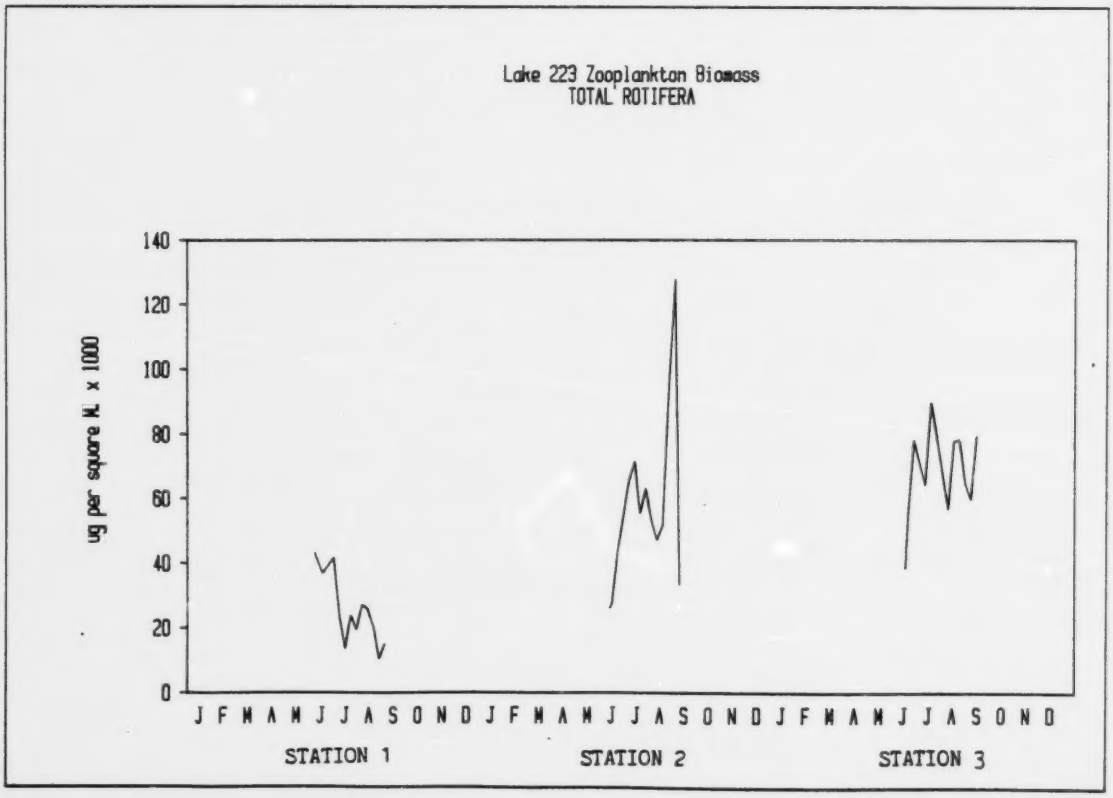
Appendix 10

Figures showing total biomass (µg per square metre) of major zooplankton groups, at three stations 10 m apart, from June 6 to September 1, 1980.


Lake 223 Zooplankton Biomass
TOTAL CLADOCERA
ug per square M. x 1000
120
100
80
60
40
20
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3


Lake 223 Zooplankton Biomass
TOTAL CALANOIDA
ug per square M. x 1000
400
350
300
250
200
150
100
50
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3


Lake 223 Zooplankton Biomass
TOTAL CYCLOPOIDA
ug per square M. x 1000
450
400
350
300
250
200
150
100
50
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3


Lake 223 Zooplankton Biomass
TOTAL ROTIFERA
ug per square M. x 1000
140
120
100
80
60
40
20
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
STATION 1
STATION 2
STATION 3

Appendix 11

Percent composition and lake volume-weighted monthly mean biomass and mean abundance of individual species including life stages of copepods in Lake 223 at three stations 10 m apart, from June 6 to September 1, 1980.

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 1 (Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	195	22	16	18	63	.03
Calanoida N2	516	163	85	14	195	.08
Calanoida N3	1229	92	188	23	383	.17
Calanoida N4	1529	131	282	36	495	.22
Calanoida N5	1180	217	209	229	459	.20
Calanoida N6	1526	84	14	0	406	.18
SUB TOTAL	6175	709	794	320	2000	.87
Calanoida (Copepodids) C1-C5						
Calanoida C1	5446	665	78	157	1587	.69
Calanoida C2	12051	932	205	0	3297	1.44
Calanoida C3	83782	18120	318	411	25658	11.18
Calanoida C4	37679	146721	46923	6344	59417	25.89
Calanoida C5	5298	16219	123986	212360	89466	38.99
SUB TOTAL	144256	182657	171510	219272	179424	78.19
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	51	20	21	9	25	.01
Cyclopoida N2	137	31	94	21	71	.03
Cyclopoida N3	74	37	83	11	51	.02
Cyclopoida N4	72	10	64	47	48	.02
Cyclopoida N5	45	0	43	38	32	.01
Cyclopoida N6	8	15	11	0	9	.00
SUB TOTAL	387	113	316	126	236	.10
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	101	36	16	134	72	.03
Cyclopoida C2	490	101	96	471	290	.13
Cyclopoida C3	1922	465	329	114	708	.31
Cyclopoida C4	3337	1455	331	217	1335	.58
Cyclopoida C5	253	665	395	1043	589	.26
SUB TOTAL	6103	2722	1167	1979	2993	1.30

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Adults) C6						
Diaptomus minutus (m)	3529	941	1811	2706	2247	.98
Diaptomus minutus (f)	18508	2503	1546	2878	6359	2.77
Epischura lacustris (m)	1547	0	0	0	387	.17
SUB TOTAL	23584	3444	3357	5584	8992	3.92
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	1446	1025	1019	873	.38
Mesocyclops edax (f)	6457	519	619	0	1899	.83
Cyclops bicuspidatus thomasi (m)	0	284	852	0	284	.12
Cyclops bicuspidatus thomasi (f)	0	0	945	0	236	.10
Eucyclops agilis (f)	0	0	0	0	0	0.00
SUB TOTAL	6457	2249	3441	1019	3292	1.43

Cladocera						
Diaphanosoma birgei	2103	17030	921	1012	5267	2.30
Holopedium gibberum	52680	2606	824	482	14148	6.17
Daphnia galeata mendotae	853	5484	5762	0	3025	1.32
Bosmina longirostris	4968	693	3888	4284	3458	1.51
Sida crystallina	0	0	0	0	0	0.00
Daphnia catawba	2669	16923	5440	1527	6640	2.89
SUB TOTAL	63273	42736	16835	7305	32537	14.18
TOTAL CRUSTACEA	250235	234630	197420	235605	229473	100.00
%Cladocera	25.29	18.21	8.53	3.10	14.18	
%Calanoida (Nauplii) N1-N6	2.47	.30	.40	.14	.87	
%Calanoida (Copepodids) C1-C5	57.65	77.85	86.88	93.07	78.19	
%Calanoida (Adults) C6	9.42	1.47	1.70	2.37	3.92	
%Cyclopoida (Nauplii) N1-N6	.15	.05	.16	.05	.10	
%Cyclopoida (Copepodids) C1-C5	2.44	1.16	.59	.84	1.30	
%Cyclopoida (Adults) C6	2.58	.96	1.74	.43	1.43	
Rotifera						
Polyarthra vulgaris	413	707	200	218	385	5.53
Filinia longisetae	0	0	1	10	3	.04
Kellicottia longispina	825	229	158	58	318	4.56
Keratella cochlearis	283	139	424	1502	587	8.44
Keratella hiemalis	3	1	0	0	1	.01
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	3	1	7	30	10	.15
Trichocerca cylindrica	0	0	0	19	5	.07
Trichocerca sp.	0	4	1	0	1	.02
Conochilus unicornis	482	13	1	0	124	1.78
Collotheca sp.	0	0	0	1		.00
Keratella taurocephala	1732	2937	7091	418	3045	43.76
Iecane sp.	3	3	6	0	3	.04
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	2	0	87	22	.32
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	359	142	13	67	145	2.09
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0.00
Ascomorpha ovalis	0	0	0	0	0	0.00
Gastropus stylifer	647	3209	1938	3442	2309	33.19
Gastropus hyptopus	0	0	0	0	0	0.00
SUB TOTAL	4750	7387	9840	5852	6957	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	254985	242017	207260	241457	236430	
%Cladocera	24.81	17.66	8.12	3.03	13.76	
%Calanoida	68.25	77.19	84.75	93.26	80.54	
%Cyclopoida	5.08	2.10	2.38	1.29	2.76	
%Rotifera	1.86	3.05	4.75	2.42	2.94	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 1 (Middle layer)

	JUN	JUL	MEAN	$ OF TOT
Calanoida (Nauplii) N1-N6				
Calanoida N1	0	0	0	0.00
Calanoida N2	33	0	17	.02
Calanoida N3	113	0	57	.05
Calanoida N4	230	0	115	.11
Calanoida N5	366	79	223	.21
Calanoida N6	343	0	172	.17
SUB TOTAL	1085	79	582	.56
Calanoida (Copepodida) C1-C5				
Calanoida C1	973	207	590	.57
Calanoida C2	1305	67	686	.66
Calanoida C3	14739	6350	10545	10.18
Calanoida C4	12314	47243	29779	28.76
Calanoida C5	544	0	272	.26
SUB TOTAL	29875	53867	41871	40.44
Cyclopoida (Nauplii) N1-N6				
Cyclopoida N1	107	22	65	.06
Cyclopoida N2	429	85	257	.25
Cyclopoida N3	738	581	660	.64
Cyclopoida N4	1201	1766	1484	1.43
Cyclopoida N5	1306	1266	1286	1.24
Cyclopoida N6	1725	334	1030	.99
SUB TOTAL	5506	4054	4780	4.62
Cyclopoida (Copepodida) C1-C5				
Cyclopoida C1	2894	624	1759	1.70
Cyclopoida C2	3739	1263	2501	2.42
Cyclopoida C3	7461	3954	5708	5.51
Cyclopoida C4	17986	12788	15387	14.86
Cyclopoida C5	11419	15959	13689	13.22
SUB TOTAL	43499	34588	39044	37.71
Calanoida (Adults) C6				
Diaptomus minutus (m)	726	0	363	.35
Diaptomus minutus (f)	3007	0	1504	1.45
Epischura lacustris (m)	0	0	0	0.00
SUB TOTAL	3733	0	1867	1.80
Cyclopoida (Adults) C6				
Mesocyclops edax (f)	2373	0	1187	1.15
Cyclops bicuspidatus thomasi (m)	3322	13484	8403	8.12
Cyclops bicuspidatus thomasi (f)	788	0	394	.38
SUB TOTAL	6483	13484	9984	9.64

Cladocera				
Diaphanosoma birgei	0	0	0	0.00
Holopedium gibberum	3790	0	1895	1.83
Daphnia galeata mendotae	0	0	0	0.00
Bosmina longirostris	6849	203	3526	3.41
Sida crystallina	0	0	0	0.00
Daphnia catawba	0	0	0	0.00
SUB TOTAL	10639	203	5421	5.24
TOTAL CRUSTACEA	100820	106275	103548	100.00
%Cladocera	10.55	.19	5.24	
%Calanoida (Nauplii) N1-N6	1.06	.07	.56	
%Calanoida (Copepodida) C1-C5	29.63	50.69	40.44	
%Calanoida (Adults) C6	3.70	0.00	1.80	
%Cyclopoida (Nauplii) N1-N6	5.46	3.81	4.62	
%Cyclopoida (Copepodida) C1-C5	43.15	32.55	37.71	
%Cyclopoida (Adults) C6	6.43	12.69	9.64	
Rotifera				
Polyarthra vulgaris	6156	6683	6420	22.25
Kellicottia longispina	1777	1830	1804	6.25
Keratella cochlearis	19199	15928	17564	60.89
Keratella hiemalis	15	0	8	.03
Monostyla sp.	0	0	0	0.00
Kellicottia bostoniensis	110	65	88	.30
Trichocera sp.	31	32	32	.11
Conochilus unicornis	38	0	19	.07
Keratella taurocephala	177	154	166	.57
Lecane sp.	3	0	2	.01
Polyarthra remata	2931	209	1570	5.44
Ploesoma lenticulare	23	6	15	.05
Ascomorpha ecaudis	30	12	21	.07
Gastropus stylifer	1543	737	1140	3.95
Gastropus hyptopus	2	0	1	.00
SUB TOTAL	32035	25656	28846	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	132855	131931	132393	
%Cladocera	8.01	.15	4.09	
%Calanoida	26.11	40.89	33.48	
%Cyclopoida	41.77	39.51	40.64	
%Rotifera	24.11	19.45	21.79	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 1 (Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	0	0	2	0	1	.00
Calanoida N2	2	6	0	0	2	.00
Calanoida N3	4	5	5	0	4	.01
Calanoida N4	2	7	20	0	7	.01
Calanoida N5	18	10	10	0	10	.02
Calanoida N6	15	0	6	26	12	.02
SUB TOTAL	41	28	43	26	35	.06
Calanoida (Copepodida) C1-C5						
Calanoida C1	57	0	0	0	14	.02
Calanoida C2	79	0	25	0	26	.04
Calanoida C3	425	1847	149	0	605	1.00
Calanoida C4	159	50725	19761	405	17763	29.32
Calanoida C5	0	8015	47118	43259	24598	40.60
SUB TOTAL	720	60587	67053	43664	43006	70.99
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	7	9	11	0	7	.01
Cyclopoida N2	24	18	25	10	19	.03
Cyclopoida N3	64	12	32	38	37	.06
Cyclopoida N4	148	56	14	37	64	.11
Cyclopoida N5	88	41	33	46	52	.09
Cyclopoida N6	84	28	14	22	37	.06
SUB TOTAL	415	164	129	153	215	.36
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	153	72	42	16	71	.12
Cyclopoida C2	187	161	43	28	105	.17
Cyclopoida C3	868	364	235	54	380	.63
Cyclopoida C4	5336	2711	518	104	2167	3.58
Cyclopoida C5	4167	5809	2539	332	3212	5.30
SUB TOTAL	10711	9117	3377	534	5935	9.80
Calanoida (Adults) C6						
Diaptomus minutus (m)	0	0	0	0	0	0.00
Diaptomus minutus (f)	0	0	0	344	86	.14
Epischura lacustris (m)	0	0	0	0	0	0.00
SUB TOTAL	0	0	0	344	86	.14
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	165	0	487	163	.27
Mesocyclops edax (f)	0	0	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	100	8987	4651	1771	3877	6.40
Cyclops bicuspidatus thomasi (f)	163	1177	1603	393	834	1.38
Eucyclops agilis (f)	0	0	0	0	0	0.00
SUB TOTAL	263	10329	6254	2651	4874	8.05

Cladocera						
Diaphanosoma birgei	0	0	101	89	48	.08
Holopedium gibberum	264	0	0	0	66	.11
Daphnia galeata mendotae	0	1017	862	243	531	.88
Bosmina longirostris	111	120	247	330	202	.33
Sida crystallina	0	0	0	0	0	0.00
Daphnia catawba	0	1236	18279	2822	5584	9.22
Leptodora kindtii	0	0	0	0	0	0.00
SUB TOTAL	375	2373	19489	3484	6430	10.61
TOTAL CRUSTACEA	12525	82598	96345	50856	60581	100.00
%Cladocera	2.99	2.87	20.23	6.85	10.61	
%Calanoida (Nauplii) N1-N6	.33	.03	.04	.05	.06	
%Calanoida (Copepodida) C1-C5	5.75	73.35	69.60	85.86	70.99	
%Calanoida (Adults) C6	0.00	0.00	0.00	.68	.14	
%Cyclopoida (Nauplii) N1-N6	3.31	.20	.13	.30	.36	
%Cyclopoida (Copepodida) C1-C5	85.52	11.04	3.51	1.05	9.80	
%Cyclopoida (Adults) C6	2.10	12.51	6.49	5.21	8.05	
Rotifera						
Polyarthra vulgaris	889	1168	769	468	824	14.06
Filinia longisetae	0	10	2	4	4	.07
Kellicottia longispina	126	372	821	263	396	6.75
Keratella cochlearis	1758	3487	3222	1628	2524	43.09
Keratella hiemalis	7	0	0	0	2	.03
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	39	23	147	296	126	2.16
Trichocerca cylindrica	0	0	0	0	0	0.00
Trichocerca sp.	5	32	23	24	21	.36
Conochilus unicornis	0	0	0	0	0	0.00
Collotheca sp.	0	0	9	120	32	.55
Keratella taurocephala	24	227	1722	157	533	9.09
Lecane sp.	0	3	0	0	1	.01
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	1	1	16	5	.08
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	163	168	68	63	116	1.97
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0.00
Ascomorpha ovalis	0	0	0	0	0	0.00
Gastropus stylifer	135	1004	2565	1401	1276	21.79
Gastropus hyptopus	0	0	0	0	0	0.00
SUB TOTAL	3146	6495	9349	4440	5858	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	15671	89093	105694	55296	66439	
%Cladocera	2.39	2.66	18.44	6.30	9.68	
%Calanoida	4.86	68.04	63.48	79.63	64.91	
%Cyclopoida	72.68	22.01	9.23	6.04	16.59	
%Rotifera	20.08	7.29	8.85	8.03	8.82	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 1 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	196	22	18	18	64	.02
Calanoida N2	552	170	85	14	205	.06
Calanoida N3	1347	97	193	23	415	.13
Calanoida N4	1762	138	302	36	560	.17
Calanoida N5	1565	260	219	229	568	.17
Calanoida N6	1885	84	21	26	504	.15
SUB TOTAL	7307	771	838	346	2316	.71
Calanoida (Copepodids) C1-C5						
Calanoida C1	6478	748	78	157	1865	.57
Calanoida C2	13436	959	230	0	3656	1.12
Calanoida C3	98946	22508	468	411	30583	9.38
Calanoida C4	50153	216344	66684	6749	84983	26.08
Calanoida C5	5842	24234	171105	255620	114200	35.04
SUB TOTAL	174855	264793	238565	262937	235288	72.20
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	166	38	32	9	61	.02
Cyclopoida N2	592	83	119	32	207	.06
Cyclopoida N3	877	282	116	50	331	.10
Cyclopoida N4	1422	773	78	85	590	.18
Cyclopoida N5	1440	548	77	85	538	.16
Cyclopoida N6	1818	177	26	22	511	.16
SUB TOTAL	6315	1901	448	283	2237	.69
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	3148	358	59	150	929	.28
Cyclopoida C2	4417	769	139	499	1456	.45
Cyclopoida C3	10251	2412	564	169	3349	1.03
Cyclopoida C4	26660	9282	849	321	9278	2.85
Cyclopoida C5	15840	12858	2935	1375	8252	2.53
SUB TOTAL	60316	25679	4546	2514	23264	7.14
Calanoida (Adults) C6						
Diaptomus minutus (m)	4255	941	1811	2706	2428	.75
Diaptomus minutus (f)	21515	2503	1546	3222	7197	2.21
Epischura lacustris (m)	1547	0	0	0	387	.12
SUB TOTAL	27317	3444	3357	5928	10012	3.07
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	1612	1025	1506	1036	.32
Mesocyclops edax (f)	8830	519	619	0	2492	.76
Cyclops bicuspidatus thomasi (m)	3422	14665	5504	1771	6341	1.95
Cyclops bicuspidatus thomasi (f)	951	1177	2549	393	1268	.39
Eucyclops agilis (f)	0	0	0	0	0	0.00
SUB TOTAL	13203	17973	9697	3670	11136	3.42

Cladocera						
Diaphanosoma birgei	2103	17030	1022	1102	5314	1.63
Holopedium gibberum	56734	2606	824	482	15162	4.65
Daphnia galeata mendotae	853	6501	6624	243	3555	1.09
Bosmina longirostris	11930	895	4136	4614	5394	1.66
Sida crystallina	0	0	0	0	0	0.00
Daphnia catawba	2669	18159	23720	4349	12224	3.75
SUB TOTAL	74289	45191	36326	10790	41649	12.78
TOTAL CRUSTACEA	363602	359752	293777	286468	325900	100.00
%Cladocera	20.43	12.56	12.37	3.77	12.78	
%Calanoida (Nauplii) N1-N6	2.01	.21	.29	.12	.71	
%Calanoida (Copepodida) C1-C5	48.09	73.60	81.21	91.79	72.20	
%Calanoida (Adults) C6	7.51	.96	1.14	2.07	3.07	
%Cyclopoida (Nauplii) N1-N6	1.74	.53	.15	.10	.69	
%Cyclopoida (Copepodida) C1-C5	16.59	7.14	1.55	.88	7.14	
%Cyclopoida (Adults) C6	3.63	5.00	3.30	1.28	3.42	
Rotifera						
Polyarthra vulgaris	7459	4549	970	687	3416	14.61
Filinia longiseta	0	10	3	15	7	.03
Kellicottia longispina	2729	1334	980	322	1341	5.74
Keratella cochlearis	21241	9998	3647	3130	9504	40.65
Keratella hiemalis	25	1	0	0	7	.03
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	154	51	155	326	172	.73
Trichocerca cylindrica	0	0	0	19	5	.02
Trichocera sp.	36	49	25	24	34	.14
Conochilus unicornis	521	13	1	0	134	.57
Collotheca sp.	0	0	10	122	33	.14
Keratella taurocephala	1933	3226	8814	576	3637	15.56
Lecane sp.	6	6	7	0	5	.02
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	3	2	104	27	.12
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	3454	395	81	130	1015	4.34
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	0	0	0	0	0	0.00
Ascomorpha ecaudis	0	0	0	0	0	0.00
Ascomorpha ovalis	0	0	0	0	0	0.00
Gastropus stylifer	2327	4508	4504	4844	4046	17.30
Gastropus hyptopus	0	0	0	0	0	0.00
SUB TOTAL	39885	24143	19199	10299	23382	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	403487	383895	312976	296767	349281	
%Cladocera	18.41	11.77	11.61	3.64	11.92	
%Calanoida	51.92	70.07	77.57	90.71	70.89	
%Cyclopoida	19.79	11.87	4.69	2.18	10.49	
%Rotifera	9.89	6.29	6.13	3.47	6.69	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 2 (Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	229	41	44	0	79	.03
Calanoida N2	523	167	124	0	204	.09
Calanoida N3	1167	194	122	47	383	.16
Calanoida N4	1124	169	247	72	403	.17
Calanoida N5	1293	326	258	91	492	.21
Calanoida N6	1735	251	99	0	521	.22
SUB TOTAL	6071	1148	894	210	2081	.87
Calanoida (Copepodids) C1-C5						
Calanoida C1	6262	1116	157	0	1884	.79
Calanoida C2	14140	1672	410	234	4114	1.72
Calanoida C3	81607	7713	262	0	24896	10.41
Calanoida C4	40128	134092	61364	10150	61434	25.68
Calanoida C5	5984	16413	131242	230201	95960	40.11
SUB TOTAL	148121	171006	193435	240585	188287	78.70
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	32	6	4	9	13	.01
Cyclopoida N2	121	29	86	29	66	.03
Cyclopoida N3	98	64	68	0	58	.02
Cyclopoida N4	54	70	43	126	73	.03
Cyclopoida N5	29	90	9	77	51	.02
Cyclopoida N6	8	19	41	0	17	.01
SUB TOTAL	342	278	251	241	278	.12
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	189	43	176	134	136	.06
Cyclopoida C2	244	162	237	235	220	.09
Cyclopoida C3	2158	267	775	228	857	.36
Cyclopoida C4	3984	1386	777	0	1537	.64
Cyclopoida C5	268	516	807	1390	745	.31
SUB TOTAL	6843	2374	2772	1987	3494	1.46
Calanoida (Adults) C6						
Diaptomus minutus (m)	2443	803	812	1082	1285	.54
Diaptomus minutus (f)	6787	3231	916	0	2734	1.14
Epischura lacustris (m)	4307	0	0	0	1077	.45
Epischura lacustris (f)	0	2622	0	0	656	.27
SUB TOTAL	13537	6656	1728	1082	5751	2.40
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	812	1043	0	464	.19
Mesocyclops edax (f)	20671	2120	1297	0	6022	2.52
Cyclops bicuspidatus thomasi (m)	0	281	520	0	200	.08
Cyclops bicuspidatus thomasi (f)	0	359	1459	6582	2100	.88
Eucyclops speratus (m)	0	0	0	0	0	0.00
SUB TOTAL	20671	3572	4319	6582	8786	3.67

Cladocera						
Diaphanosoma birgei	2787	19439	1075	675	5994	2.51
Holopedium gibberum	53325	1565	743	0	13908	5.81
Daphnia galeata mendotae	140	6597	6178	2036	3738	1.56
Bosmina longirostris	3619	761	1213	1360	1738	.73
Sida crystallina	0	0	0	0	0	0.00
Daphnia retrowa	5867	10137	3799	1018	5205	2.18
SUB TOTAL	65738	38499	13008	5089	30584	12.78
TOTAL CRUSTACEA	261323	223533	216407	255776	239260	100.00
%Cladocera	25.16	17.22	6.01	1.99	12.78	
%Calanoida (Nauplii) N1-N6	2.32	.51	.41	.08	.87	
%Calanoida (Copepodida) C1-C5	58.68	76.50	89.38	94.06	78.70	
%Calanoida (Adults) C6	5.18	2.98	.80	.42	2.40	
%Cyclopoida (Nauplii) N1-N6	.13	.12	.12	.09	.12	
%Cyclopoida (Copepodida) C1-C5	2.62	1.06	1.28	.78	1.46	
%Cyclopoida (Adults) C6	7.91	1.60	2.00	2.57	3.67	
Rotifera						
Polyarthra vulgaris	457	1230	239	314	560	5.58
Filinia longiseta	4	13	0	0	4	.04
Kellicottia longispina	874	562	302	234	493	4.92
Keratella cochlearis	490	2379	693	2289	1463	14.58
Keratella hiemalis	0	0	0	0	0	0.00
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Keratella quadrata	0	0	0	0	0	0.00
Kellicottia bostoniensis	2	477	22	155	164	1.64
Trichocera sp.	5	20	12	16	13	.13
Conochilus unicornis	558	2	0	0	140	1.40
Collotheca sp.	0	0	0	3	1	.01
Keratella taurocephala	2361	2607	8206	549	2931	29.22
Ieosane sp.	6	8	7	0	5	.05
Anuraeopsis fissa	1	1	0	0	1	.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	303	100	24	108	134	1.33
Ploesoma lenticulare	535	239	3453	3631	1965	19.59
Ploesoma truncatum	0	0	4	0	1	.01
Ascomorpha ecaudis	0	1	0	0		.00
Ascomorpha ovalis	0	1	0	0		.00
Gastropus stylifer	465	2139	2437	3578	2155	21.48
Gastropus hyptopus	0	2	0	0	1	.00
SUB TOTAL	6061	9781	13399	10877	10030	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	267384	233314	229806	266653	249289	
%Cladocera	24.59	16.50	5.66	1.91	12.27	
%Calanoida	62.73	76.64	85.31	90.71	78.67	
%Cyclopoida	10.42	2.67	3.19	3.30	5.04	
%Rotifera	2.27	4.19	5.83	4.08	4.02	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 2 (Middle layer)

	JUN	JUL	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6				
Calanoida N1	0	0	0	0.00
Calanoida N2	3	9	6	.00
Calanoida N3	63	0	32	.01
Calanoida N4	117	0	59	.02
Calanoida N5	342	59	201	.08
Calanoida N6	92	35	64	.03
SUB TOTAL	617	103	360	.15
Calanoida (Copepodids) C1-C5				
Calanoida C1	477	0	239	.10
Calanoida C2	1462	60	761	.31
Calanoida C3	3819	2989	3404	1.40
Calanoida C4	2484	35100	18792	7.73
Calanoida C5	0	1285	643	.26
SUB TOTAL	8242	39434	23838	9.81
Cyclopoida (Nauplii) N1-N6				
Cyclopoida N1	72	13	43	.02
Cyclopoida N2	246	66	156	.06
Cyclopoida N3	739	231	485	.20
Cyclopoida N4	1451	940	1196	.49
Cyclopoida N5	1118	829	974	.40
Cyclopoida N6	943	521	732	.30
SUB TOTAL	4569	2600	3585	1.48
Cyclopoida (Copepodids) C1-C5				
Cyclopoida C1	2092	376	1234	.51
Cyclopoida C2	3754	1325	2540	1.05
Cyclopoida C3	10237	7479	8858	3.65
Cyclopoida C4	82791	87818	85305	35.10
Cyclopoida C5	55655	127749	91702	37.74
SUB TOTAL	154529	224747	189638	78.04
Calanoida (Adults) C6				
Diaptomus minutus (m)	941	0	471	.19
Diaptomus minutus (f)	0	0	0	0.00
Epischura lacustris (m)	0	0	0	0.00
Epischura lacustris (f)	0	0	0	0.00
SUB TOTAL	941	0	471	.19
Cyclopoida (Adults) C6				
Mesocyclops edax (m)	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	1450	14238	7844	3.23
Cyclops bicuspidatus thomasi (f)	9437	11301	10369	4.27
Eucyclops speratus (m)	0	0	0	0.00
SUB TOTAL	10887	25539	18213	7.50

Cladocera				
Diaphanosoma birgei	0	160	80	.03
Holopedium gibberum	7792	0	3896	1.60
Daphnia galeata mendotae	381	370	376	.15
Bosmina longirostris	3351	152	1752	.72
Daphnia catawba	0	1587	794	.33
SUB TOTAL	11524	2269	6897	2.84
TOTAL CRUSTACEA	191309	294692	243001	100.00
%Cladocera	6.02	.77	2.84	
%Calenoida (Nauplii) N1-N6	.32	.03	.15	
%Calenoida (Copepodida) C1-C5	4.31	13.38	9.81	
%Calenoida (Adults) C6	.49	0.00	.19	
%Cyclopoida (Nauplii) N1-N6	2.39	.88	1.48	
%Cyclopoida (Copepodida) C1-C5	80.77	76.27	78.04	
%Cyclopoida (Adults) C6	5.69	8.67	7.50	
Rotifera				
Polyarthra vulgaris	7985	22873	15429	37.92
Filinia longiseta	0	5	3	.01
Kellicottia longispina	1257	2619	1938	4.76
Keratella cochlearis	13855	25274	19565	48.08
Keratella hiemalis	41	0	21	.05
Monostyla sp.	0	0	0	0.00
Keratella quadrata	0	0	0	0.00
Kellicottia bostoniensis	314	3604	1959	4.81
Trichocera sp.	6	116	61	.15
Conochilus unicornis	12	0	6	.01
Collotheca sp.	0	1	1	.00
Keratella taurocephala	118	213	166	.41
Leoane sp.	4	13	9	.02
Anuraeopsis fissa	0	0	0	0.00
Synchaeta sp.	1	0	1	.00
Pompholyx sp.	0	0	0	0.00
Trichotria sp.	0	0	0	0.00
Polyarthra remata	1256	450	853	2.10
Ploesoma lenticulare	20	16	18	.04
Ascomorpha ecaudis	24	12	18	.04
Ascomorpha ovalis	0	0	0	0.00
Gastropus stylifer	571	695	633	1.56
Gastropus hyptopus	3	29	16	.04
SUB TOTAL	25467	55920	40694	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	216776	350612	283694	
%Cladocera	5.32	.65	2.43	
%Calenoida	4.52	11.28	8.70	
%Cyclopoida	78.42	72.13	74.53	
%Rotifera	11.75	15.95	14.34	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 2 (Lower layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	0	0	4	0	1	.00
Calanoida N2	0	0	0	0	0	0.00
Calanoida N3	3	0	9	0	3	.01
Calanoida N4	6	0	13	0	5	.01
Calanoida N5	2	1	0	0	1	.00
Calanoida N6	4	0	10	0	4	.01
SUB TOTAL	15	1	36	0	13	.02
Calanoida (Copepodids) C1-C5						
Calanoida C1	11	3	0	0	4	.01
Calanoida C2	29	1	0	0	8	.01
Calanoida C3	94	218	78	0	98	.18
Calanoida C4	30	10044	12102	0	5544	10.31
Calanoida C5	20	2253	31631	21854	13940	25.92
SUB TOTAL	184	12519	43811	21854	19592	36.43
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	1	5	162	204	93	.17
Cyclopoida N2	2	18	234	361	154	.29
Cyclopoida N3	13	26	350	448	209	.39
Cyclopoida N4	19	58	210	357	161	.30
Cyclopoida N5	14	37	189	188	107	.20
Cyclopoida N6	17	46	185	19	67	.12
SUB TOTAL	66	190	1330	1577	791	1.47
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	12	67	119	0	50	.09
Cyclopoida C2	22	85	192	47	87	.16
Cyclopoida C3	63	154	694	0	228	.42
Cyclopoida C4	1109	3830	6499	351	2947	5.48
Cyclopoida C5	1182	9167	29877	3932	11040	20.53
SUB TOTAL	2388	13303	37381	4330	14351	26.69
Calanoida (Adults) C6						
Diaptomus minutus (m)	0	0	0	0	0	0.00
Diaptomus minutus (f)	18	0	0	0	5	.01
Epischura lacustris (m)	0	0	0	0	0	0.00
Epischura lacustris (f)	0	0	0	0	0	0.00
SUB TOTAL	18	0	0	0	5	.01
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	0	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	20	4169	14352	1358	4975	9.25
Cyclops bicuspidatus thomasi (f)	58	2666	29842	5983	9637	17.92
Eucyclops speratus (m)	0	0	0	0	0	0.00
SUB TOTAL	78	6835	44194	7341	14612	27.17

Cladocera						
Diaphanosoma birgei	0	194	0	0	49	.09
Holopedium gibberum	0	0	0	0	0	0.00
Daphnia galeata mendotae	0	0	210	0	53	.10
Bosmina longirostris	22	41	133	92	72	.13
Sida crystallina	0	0	0	0	0	0.00
Daphnia catawba	0	695	12101	4167	4241	7.89
SUB TOTAL	22	930	12444	4259	4414	8.21
TOTAL CRUSTACEA	2771	33778	139196	39361	53777	100.00
%Cladocera	.79	2.75	8.94	10.82	8.21	
%Calanoida (Nauplii) N1-N6	.54	.00	.03	0.00	.02	
%Calanoida (Copepodida) C1-C5	6.64	37.06	31.47	55.52	36.43	
%Calanoida (Adults) C6	.65	0.00	0.00	0.00	.01	
%Cyclopoida (Nauplii) N1-N6	2.38	.56	.96	4.01	1.47	
%Cyclopoida (Copepodida) C1-C5	86.18	39.38	26.85	11.00	26.69	
%Cyclopoida (Adults) C6	2.81	20.24	31.75	18.65	27.17	
Rotifera						
Polyarthra vulgaris	131	1944	8861	3721	3664	15.12
Filinia longiseta	0	2	3	0	1	.01
Kellicottia longispina	28	623	4305	739	1424	5.88
Keratella cochlearis	417	2932	12513	3133	4749	19.60
Keratella hiemalis	0	0	0	0	0	0.00
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Keratella quadrata	0	0	0	0	0	0.00
Kellicottia bostoniensis	6	939	35066	13830	12460	51.43
Trichocera sp.	0	16	50	10	19	.08
Conochilus unicornis	0	0	0	0	0	0.00
Collotheca sp.	0	0	7	19	7	.03
Keratella taurocephala	7	96	1304	51	365	1.50
Lecane sp.	0	1	0	0		.00
Anuraeopsis fissa	0	0	0	0	0	0.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	0	0	0.00
Pompholyx sp.	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	34	99	690	222	261	1.08
Ploesoma lenticulare	1	4	507	94	152	.63
Ploesoma truncatum	0	0	6	0	2	.01
Ascomorpha ecaudis	0	0	1	0		.00
Ascomorpha ovalis	0	0	0	0	0	0.00
Gastropus stylifer	28	415	3550	509	1126	4.65
Gastropus hyptopus	0	0	0	0	0	0.00
SUB TOTAL	652	7071	66863	22328	24229	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	3423	40849	206059	61689	78005	
%Cladocera	.64	2.28	6.04	6.90	5.66	
%Calanoida	6.34	30.65	21.28	35.43	25.14	
%Cyclopoida	73.97	49.76	40.23	21.48	38.14	
%Rotifera	19.05	17.31	32.45	36.19	31.06	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 2 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	229	41	48	0	80	.02
Calanoida N2	526	175	124	0	206	.05
Calanoida N3	1233	194	131	47	401	.10
Calanoida N4	1248	169	261	72	438	.11
Calanoida N5	1638	376	258	91	591	.15
Calanoida N6	1833	280	110	0	556	.14
SUB TOTAL	6707	1235	932	210	2271	.57
Calanoida (Copepodids) C1-C5						
Calanoida C1	6751	1119	157	0	2007	.50
Calanoida C2	15631	1721	410	234	4499	1.13
Calanoida C3	85521	20323	340	0	26546	6.64
Calanoida C4	42643	172218	73467	10150	74620	18.66
Calanoida C5	6004	19695	162873	252055	110157	27.55
SUB TOTAL	156550	215076	237247	262439	217828	54.48
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	106	22	167	213	127	.03
Cyclopoida N2	371	101	321	390	296	.07
Cyclopoida N3	852	275	418	448	498	.12
Cyclopoida N4	1525	880	254	483	786	.20
Cyclopoida N5	1161	791	198	266	604	.15
Cyclopoida N6	969	483	226	19	424	.11
SUB TOTAL	4984	2552	1584	1819	2735	.68
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	2293	412	295	134	784	.20
Cyclopoida C2	4020	1308	429	283	1510	.38
Cyclopoida C3	12458	6405	1469	228	5140	1.29
Cyclopoida C4	87884	75471	7276	351	42746	10.69
Cyclopoida C5	57105	111882	30684	5323	51249	12.82
SUB TOTAL	163760	195478	40153	6319	101428	25.37
Calanoida (Adults) C6						
Diaptomus minutus (m)	3384	803	812	1082	1520	.38
Diaptomus minutus (f)	6806	3231	916	0	2738	.68
Epischura lacustris (m)	4307	0	0	0	1077	.27
Epischura lacustris (f)	0	2622	0	0	656	.16
SUB TOTAL	14497	6656	1728	1082	5991	1.50
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	812	1043	0	464	.12
Mesocyclops edax (f)	20671	2120	1297	0	6022	1.51
Cyclops bicuspidatus thomasi (m)	1471	15842	14872	1358	8386	2.10
Cyclops bicuspidatus thomasi (f)	9496	12067	31302	12565	16358	4.09
Eucyclops speratus (m)	0	0	0	0	0	0.00
SUB TOTAL	31638	30841	48514	13923	31229	7.81

Cladocera						
Diaphanosoma birgei	2787	19761	1075	675	6075	1.52
Holopedium gibberum	61118	1565	743	0	15857	3.97
Daphnia galeata mendotae	521	6893	6389	2036	3960	.99
Bosmina longirostris	6993	924	1347	1452	2679	.67
Sida crystallina	0	0	0	0	0	0.00
Daphnia catawba	5867	12102	15901	5185	9764	2.44
SUB TOTAL	77286	41245	25455	9348	38334	9.59
TOTAL CRUSTACEA	455422	493083	355613	295140	399815	100.00
%Cladocera	16.97	8.36	7.16	3.17	9.59	
%Calanoida (Nauplii) N1-N6	1.47	.25	.26	.07	.57	
%Calanoida (Copepodida) C1-C5	34.37	43.62	66.71	88.92	54.48	
%Calanoida (Adults) C6	3.18	1.35	.49	.37	1.50	
%Cyclopoida (Nauplii) N1-N6	1.09	.52	.45	.62	.68	
%Cyclopoida (Copepodida) C1-C5	35.96	39.64	11.29	2.14	25.37	
%Cyclopoida (Adults) C6	6.95	6.25	13.64	4.72	7.81	
Rotifera						
Polyarthra vulgaris	8574	21473	9101	4036	10796	20.83
Filinia longisetae	4	20	3	0	7	.01
Kellicottia longispina	2160	3281	4608	974	2756	5.32
Keratella cochlearis	14764	25531	13207	5422	14731	28.43
Keratella hiemalis	42	0	0	0	11	.02
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Keratella quadrata	0	0	0	0	0	0.00
Kellicottia bostoniensis	322	4299	35088	13986	13424	25.91
Trichocera sp.	12	131	63	27	58	.11
Conochilus unicornis	571	2	0	0	143	.28
Collotheca sp.	0	0	8	22	8	.01
Keratella taurocephala	2487	2874	7510	601	3368	6.50
Ieosne sp.	11	20	7	0	10	.02
Anuraeopsis fissa	1	1	0	0	1	.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	1	0	0	0		.00
Pompholyx sp.	0	0	0	0	0	0.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	1594	560	715	331	800	1.54
Ploesoma lenticulare	557	257	3961	3726	2125	4.10
Ploesoma truncatum	0	0	10	0	3	.00
Ascomorpha ecaudis	24	12	2	0	10	.02
Ascomorpha ovalis	0	1	0	0		.00
Gastropus stylifer	1065	3111	5988	4087	3563	6.88
Gastropus hyptopus	3	26	0	0	7	.01
SUB TOTAL	32192	61599	80271	33212	51819	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	487614	554682	435884	328352	451633	
%Cladocera	15.85	7.44	5.84	2.85	8.49	
%Calanoida	36.45	40.20	55.04	80.32	50.06	
%Cyclopoida	41.09	41.26	20.71	6.72	29.98	
%Rotifera	6.60	11.11	18.42	10.11	11.47	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 3 (Upper layer)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	213	31	21	18	71	.03
Calanoida N2	563	122	33	0	180	.09
Calanoida N3	1172	165	92	47	369	.18
Calanoida N4	1769	240	206	0	554	.27
Calanoida N5	36319	259	87	91	9189	4.40
Calanoida N6	1424	145	113	0	421	.20
SUB TOTAL	41460	962	552	156	10783	5.16
Calanoida (Copepodida) C1-C5						
Calanoida C1	5313	807	169	0	1572	.75
Calanoida C2	18320	1855	117	117	5102	2.44
Calanoida C3	81804	16724	269	205	24751	11.85
Calanoida C4	35568	128047	56226	2537	55595	26.61
Calanoida C5	5607	15726	122730	173802	79466	38.04
SUB TOTAL	146612	163159	179511	176661	166486	79.69
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	35	6	24	9	19	.01
Cyclopoida N2	71	29	74	102	69	.03
Cyclopoida N3	79	32	51	184	87	.04
Cyclopoida N4	24	33	34	126	54	.03
Cyclopoida N5	37	17	24	0	20	.01
Cyclopoida N6	0	20	11	0	8	.00
SUB TOTAL	246	137	218	421	256	.12
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	51	44	67	0	41	.02
Cyclopoida C2	221	38	29	0	72	.03
Cyclopoida C3	1913	196	57	915	770	.37
Cyclopoida C4	2616	2430	507	0	1388	.66
Cyclopoida C5	0	813	720	0	383	.18
SUB TOTAL	4801	3521	1380	915	2654	1.27
Calanoida (Adults) C6						
Diaptomus minutus (m)	3114	350	1237	0	1175	.56
Diaptomus minutus (f)	9084	3427	1564	0	3519	1.68
SUB TOTAL	12198	3777	2801	0	4694	2.25
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (f)	91	0	0	0	23	.01
Mesocyclops edax (m)	0	0	1043	0	261	.12
Mesocyclops edax (f)	2754	2595	2848	0	2049	.98
Cyclops bicuspidatus thomasi (m)	0	355	1654	1345	839	.40
Cyclops bicuspidatus thomasi (f)	0	352	842	0	299	.14
Eucyclops speratus (m)	0	0	0	0	0	0.00
Eucyclops speratus (f)	0	0	0	0	0	0.00
SUB TOTAL	2845	3302	6387	1345	3470	1.66

Cladocera						
Diaphanosoma birgei	1787	17863	1440	337	5357	2.56
Holopedium gibberum	27022	2368	1073	0	7616	3.65
Daphnia galeata mendotae	140	5273	7848	0	3315	1.59
Bosmina longirostris	3135	420	891	1360	1452	.69
Latona setifera	0	0	0	0	0	0.00
Daphnia catawba	3132	5903	1291	1018	2836	1.36
SUB TOTAL	35216	31827	12543	2715	20575	9.85
TOTAL CRUSTACEA	243378	206685	203392	182213	208917	100.00
%Cladocera	14.47	15.40	6.17	1.49	9.85	
%Calanoida (Nauplii) N1-N6	17.04	.47	.27	.09	5.16	
%Calanoida (Copepodida) C1-C5	60.24	78.94	88.26	96.95	79.69	
%Calanoida (Adults) C6	5.01	1.83	1.38	0.00	2.25	
%Cyclopoida (Nauplii) N1-N6	.10	.07	.11	.23	.12	
%Cyclopoida (Copepodida) C1-C5	1.97	1.70	.68	.50	1.27	
%Cyclopoida (Adults) C6	1.17	1.60	3.14	.74	1.66	
Rotifera						
Polyarthra vulgaris	693	805	741	1818	1014	7.16
Filinia longiseta	0	33	0	0	8	.06
Kellicottia longispina	880	297	1442	703	831	5.86
Keratella cochlearis	641	1275	4623	3243	2446	17.26
Keratella hiemalis	3	0	0	0	1	.01
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	2	33	5300	6747	3021	21.32
Trichocera sp.	3	15	28	6	13	.09
Conochilus unicornis	480	1	0	0	120	.85
Collotheca sp.	0	0	0	16	4	.03
Keratella taurocephala	2620	3068	6681	279	3162	22.32
Cephalodella sp.	0	0	0	0	0	0.00
Lecane sp.	8	10	2	0	5	.04
Anuraeopsis fissa	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	0	0	27	7	.05
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	357	76	87	169	172	1.22
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	346	230	3135	1712	1356	9.57
Ascomorpha ecaudis	1	2	5	0	2	.01
Gastropus stylifer	733	2124	2665	2503	2006	14.16
Gastropus hyptopus	0	0	1	0		.00
SUB TOTAL	6767	7969	24710	17223	14167	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	250145	214654	228102	199436	223084	
%Cladocera	14.08	14.83	5.50	1.36	9.22	
%Calanoida	80.06	78.22	80.17	88.66	81.57	
%Cyclopoida	3.15	3.24	3.50	1.34	2.86	
%Rotifera	2.71	3.71	10.83	8.64	6.35	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 3 (Middle layer)

	JUN	JUL	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6				
Calanoida N1	13	0	7	.00
Calanoida N2	34	0	17	.01
Calanoida N3	33	0	17	.01
Calanoida N4	297	31	164	.08
Calanoida N5	357	0	179	.09
Calanoida N6	78	0	39	.02
SUB TOTAL	812	31	422	.21
Calanoida (Copepodids) C1-C5				
Calanoida C1	860	0	430	.21
Calanoida C2	1196	193	695	.34
Calanoida C3	6955	2751	4853	2.39
Calanoida C4	3983	15883	9933	4.88
Calanoida C5	0	0	0	0.00
SUB TOTAL	12994	18827	15911	7.82
Cyclopoida (Nauplii) N1-N6				
Cyclopoida N1	148	18	83	.04
Cyclopoida N2	460	112	286	.14
Cyclopoida N3	985	204	595	.29
Cyclopoida N4	2310	645	1478	.73
Cyclopoida N5	1771	538	1155	.57
Cyclopoida N6	1461	289	875	.43
SUB TOTAL	7135	1806	4471	2.20
Cyclopoida (Copepodids) C1-C5				
Cyclopoida C1	2934	226	1580	.78
Cyclopoida C2	7994	783	4389	2.16
Cyclopoida C3	19995	4402	12199	6.00
Cyclopoida C4	95207	42680	68944	33.89
Cyclopoida C5	75936	73911	74924	36.83
SUB TOTAL	202066	122002	162038	79.64
Calanoida (Adults) C6				
Diaptomus minutus (m)	0	0	0	0.00
Diaptomus minutus (f)	1006	0	503	.25
SUB TOTAL	1006	0	503	.25
Cyclopoida (Adults) C6				
Tropocyclops prasinus mexicanus (f)	0	0	0	0.00
Mesocyclops edax (m)	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	3381	12241	7811	3.84
Cyclops bicuspidatus thomasi (f)	3783	7910	5847	2.87
Eucyclops speratus (m)	0	0	0	0.00
SUB TOTAL	7164	20151	13658	6.71

Cladocera				
Diaphanosoma birgei	0	0	0	0.00
Holopedium gibberum	6443	0	3222	1.58
Daphnia galeata mendotae	0	0	0	0.00
Bosmina longirostris	6365	101	3233	1.59
Latona setifera	0	0	0	0.00
Daphnia catawba	0	0	0	0.00
SUB TOTAL	12808	101	6455	3.17
TOTAL CRUSTACEA	243985	162918	203452	100.00
%Cladocera	5.25	.06	3.17	
%Calanoida (Nauplii) N1-N6	.33	.02	.21	
%Calanoida (Copepodida) C1-C5	5.33	11.56	7.82	
%Calanoida (Adults) C6	.41	0.00	.25	
%Cyclopoida (Nauplii) N1-N6	2.92	1.11	2.20	
%Cyclopoida (Copepodida) C1-C5	82.82	74.89	79.64	
%Cyclopoida (Adults) C6	2.94	12.37	6.71	
Rotifera				
Polyarthra vulgaris	21010	20078	20544	45.37
Kellicottia longispina	1735	2316	2026	4.47
Keratella cochlearis	21799	15940	18870	41.67
Keratella hiemalis	212	0	106	.23
Monostyla sp.	0	0	0	0.00
Kellicottia bostoniensis	634	2398	1516	3.35
Trichocera sp.	35	96	66	.14
Conochilus unicornis	31	4	18	.04
Keratella taurocephala	222	209	216	.48
Ieosane sp.	3	0	2	.00
Monommata sp.	0	0	0	0.00
Synchaeta sp.	0	0	0	0.00
Trichotria sp.	0	0	0	0.00
Testudinella sp.	0	0	0	0.00
Polyarthra remata	1612	299	956	2.11
Rotaria sp.	0	0	0	0.00
Ploesoma lenticulare	6	11	9	.02
Ascomorpha ecaudis	29	3	16	.04
Gastropus stylifer	1326	541	934	2.06
Gastropus hyptopus	19	0	10	.02
SUB TOTAL	48673	41895	45284	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	292658	204813	248736	
%Cladocera	4.38	.05	2.59	
%Calanoida	5.06	9.21	6.77	
%Cyclopoida	73.93	70.29	72.43	
%Rotifera	16.63	20.46	18.21	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

(STATION 3 (Lower layer))

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	0	0	3	0	1	.00
Calanoida N2	8	0	6	0	4	.00
Calanoida N3	12	0	9	0	5	.01
Calanoida N4	15	3	44	0	16	.02
Calanoida N5	22	2	0	0	6	.01
Calanoida N6	15	0	0	0	4	.00
SUB TOTAL	72	5	62	0	35	.04
Calanoida (Copepodids) C1-C5						
Calanoida C1	42	0	0	0	11	.01
Calanoida C2	120	11	53	0	46	.05
Calanoida C3	464	1447	0	0	478	.52
Calanoida C4	594	22967	13371	0	9233	9.99
Calanoida C5	65	1650	38580	24402	16174	17.50
SUB TOTAL	1285	26075	52004	24402	25942	28.06
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	1	5	130	389	131	.14
Cyclopoida N2	7	14	339	1421	445	.48
Cyclopoida N3	28	55	538	1680	575	.62
Cyclopoida N4	46	408	326	836	404	.44
Cyclopoida N5	29	417	150	117	178	.19
Cyclopoida N6	13	199	111	215	135	.15
SUB TOTAL	124	1098	1594	4658	1869	2.02
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	67	342	141	0	138	.15
Cyclopoida C2	136	563	296	0	249	.27
Cyclopoida C3	952	2385	429	0	942	1.02
Cyclopoida C4	9231	36186	3987	2307	12928	13.99
Cyclopoida C5	7327	71298	16287	9476	26097	28.23
SUB TOTAL	17713	110774	21140	11783	40353	43.65
Calanoida (Adults) C6						
Diaptomus minutus (m)	43	0	0	0	11	.01
Diaptomus minutus (f)	162	0	0	0	41	.04
SUB TOTAL	205	0	0	0	51	.06
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (f)	0	0	0	0	0	0.00
Mesocyclops edax (m)	0	0	0	0	0	0.00
Mesocyclops edax (f)	0	0	0	0	0	0.00
Cyclops bicuspidatus thomasi (m)	0	11163	12579	3565	6827	7.39
Cyclops bicuspidatus thomasi (f)	158	11776	11282	19935	10788	11.67
Eucyclops speratus (m)	0	0	0	0	0	0.00
Eucyclops speratus (f)	0	0	0	0	0	0.00
SUB TOTAL	158	22939	23861	23500	17615	19.06

Cladocera						
Diaphanosoma birgei	85	7	0	0	23	.02
Holopedium gibberum	391	0	0	0	98	.11
Daphnia galeata mendotae	0	13	791	771	394	.43
Bosmina longirostris	17	18	179	0	54	.06
Latona setifera	0	0	0	0	0	0.00
Daphnia catawba	0	692	15522	7810	6006	6.50
Leptodora kindtii	0	0	0	0	0	0.00
SUB TOTAL	493	730	16492	8581	6574	7.11
TOTAL CRUSTACEA	20050	161621	115153	72924	92437	100.00
%Cladocera	2.46	.45	14.32	11.77	7.11	
%Calanoida (Nauplii) N1-N6	.36	.00	.05	0.00	.04	
%Calanoida (Copepodids) C1-C5	6.41	16.13	45.16	33.46	28.06	
%Calanoida (Adults) C6	1.02	0.00	0.00	0.00	.06	
%Cyclopoida (Nauplii) N1-N6	.62	.68	1.38	6.39	2.02	
%Cyclopoida (Copepodids) C1-C5	88.34	68.54	18.36	16.16	43.65	
%Cyclopoida (Adults) C6	.79	14.19	20.72	32.23	19.06	
Rotifera						
Polyarthra vulgaris	599	16439	8688	10218	8986	24.37
Filinia longiseta	0	0	4	0	1	.00
Kellicottia longispina	56	1941	4743	1707	2112	5.73
Keratella cochlearis	762	14366	14412	6813	9088	24.65
Keratella hiemalis	6	0	0	0	2	.00
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	22	4418	12239	40356	14259	38.68
Trichocera sp.	2	107	56	92	64	.17
Conochilus unicornis	4	0	0	0	1	.00
Collotheca sp.	0	0	6	23	7	.02
Keratella taurocephala	24	168	1280	64	384	1.04
Cephalodella sp.	0	0	0	0	0	0.00
Lecane sp.	0	2	3	0	1	.00
Anuraeopsis fissa	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	3	0	0	1	.00
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	60	359	503	1332	564	1.53
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	2	0	280	353	159	.43
Ascomorpha ecaudis	0	1	0	0		.00
Gastropus stylifer	44	664	3111	1133	1238	3.36
Gastropus hyptopus	0	7	0	0	2	.00
SUB TOTAL	1581	38475	45325	62091	36868	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	21631	200096	160478	135015	129305	
%Cladocera	2.28	.36	10.28	6.36	5.08	
%Calanoida	7.22	13.03	32.44	18.07	20.13	
%Cyclopoida	83.19	67.37	29.04	29.58	46.27	
%Rotifera	7.31	19.23	28.24	45.99	28.51	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE BIOMASS (ug/M^2)

STATION 3 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	226	31	24	18	75	.02
Calanoida N2	606	122	39	0	192	.05
Calanoida N3	1218	165	102	47	383	.10
Calanoida N4	2082	263	251	0	649	.17
Calanoida N5	36699	261	87	91	9285	2.40
Calanoida N6	1518	145	113	0	444	.11
SUB TOTAL	42349	987	616	156	11027	2.85
Calanoida (Copepodids) C1-C5						
Calanoida C1	6217	807	169	0	1798	.46
Calanoida C2	19637	1983	170	117	5477	1.42
Calanoida C3	89224	19823	269	205	27380	7.08
Calanoida C4	40145	160545	69597	2537	68206	17.63
Calanoida C5	5672	17377	161310	198204	95641	24.73
SUB TOTAL	160895	200535	231515	201063	198502	51.32
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	185	23	154	398	190	.05
Cyclopoida N2	539	112	414	1523	647	.17
Cyclopoida N3	1092	211	589	1865	939	.24
Cyclopoida N4	2381	829	360	963	1133	.29
Cyclopoida N5	1838	757	175	117	722	.19
Cyclopoida N6	1475	393	123	215	552	.14
SUB TOTAL	7510	2325	1815	5081	4183	1.08
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	3053	523	209	0	946	.24
Cyclopoida C2	8352	1071	325	0	2437	.63
Cyclopoida C3	22861	5222	486	915	7371	1.91
Cyclopoida C4	107055	64225	4495	2307	44521	11.51
Cyclopoida C5	83264	116459	17008	9476	56552	14.62
SUB TOTAL	224585	187500	22523	12698	111827	28.91
Calanoida (Adults) C6						
Diaptomus minutus (m)	3157	350	1237	0	1186	.31
Diaptomus minutus (f)	10253	3427	1564	0	3811	.99
SUB TOTAL	13410	3777	2801	0	4997	1.29
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (f)	91	0	0	0	23	.01
Mesocyclops edax (m)	0	0	1043	0	261	.07
Mesocyclops edax (f)	2754	2595	2848	0	2049	.53
Cyclops bicuspidatus thomasi (m)	3381	18863	14234	4911	10347	2.68
Cyclops bicuspidatus thomasi (f)	3942	16874	12124	19935	13219	3.42
Eucyclops speratus (m)	0	0	0	0	0	0.00
Eucyclops speratus (f)	0	0	0	0	0	0.00
SUB TOTAL	10168	38332	30249	24846	25899	6.70

Cladocera						
Diaphanosoma birgei	1872	17871	1440	337	5380	1.39
Holopedium gibberum	33858	2368	1073	0	9325	2.41
Daphnia galeata mendotae	140	5287	8640	771	3710	.96
Bosmina longirostris	9518	499	1070	1360	3112	.80
Daphnia catawba	3132	6596	16813	8829	8843	2.29
SUB TOTAL	48520	32621	29036	11297	30369	7.85
TOTAL CRUSTACEA	507437	466077	318555	255141	386803	100.00
%Cladocera	9.56	7.00	9.11	4.43	7.85	
%Calanoida (Nauplii) N1-N6	8.35	.21	.19	.06	2.85	
%Calanoida (Copepodida) C1-C5	31.71	43.03	72.68	78.80	51.32	
%Calanoida (Adults) C6	2.64	.81	.88	0.00	1.29	
%Cyclopoida (Nauplii) N1-N6	1.48	.50	.57	1.99	1.08	
%Cyclopoida (Copepodida) C1-C5	44.26	40.23	7.07	4.98	28.91	
%Cyclopoida (Adults) C6	2.00	8.22	9.50	9.74	6.70	
Rotifera						
Polyarthra vulgaris	22303	29292	9429	12037	18265	26.28
Filinia longiseta	0	33	4	0	9	.01
Kellicottia longispina	2673	3628	6185	2411	3724	5.36
Keratella cochlearis	23203	25206	19036	10056	19375	27.88
Keratella hiemalis	222	0	0	0	56	.08
Conochiloides sp.	0	0	0	0	0	0.00
Monostyla sp.	0	0	0	0	0	0.00
Kellicottia bostoniensis	659	5890	17540	47103	17798	25.61
Trichocera sp.	41	180	85	98	101	.15
Conochilus unicornis	516	4	0	0	130	.19
Collotheca sp.	0	0	6	39	11	.02
Keratella taurocephala	2867	3362	7961	343	3633	5.23
Cephalodella sp.	0	0	0	0	0	0.00
Ieosne sp.	12	13	5	0	8	.01
Anuraeopsis fissa	0	0	0	0	0	0.00
Lepadella sp.	0	0	0	0	0	0.00
Monommata sp.	0	0	0	0	0	0.00
Notommata sp.	0	0	0	0	0	0.00
Synchaeta sp.	0	3	0	27	8	.01
Trichotria sp.	0	0	0	0	0	0.00
Testudinella sp.	0	0	0	0	0	0.00
Polyarthra remata	2030	614	590	1501	1184	1.70
Rotaria sp.	0	0	0	0	0	0.00
Ploesoma lenticulare	355	238	3415	2065	1518	2.18
Ascomorpha ecaudis	31	6	5	0	11	.02
Gastropus stylifer	2104	3113	5777	3637	3658	5.26
Gastropus hyptopus	20	7	1	0	7	.01
SUB TOTAL	57036	71589	70039	79317	69495	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	564473	537666	388594	334458	456298	
%Cladocera	8.60	6.07	7.47	3.38	6.66	
%Calanoida	38.38	38.18	60.46	60.16	47.01	
%Cyclopoida	42.92	42.43	14.05	12.74	31.10	
%Rotifera	10.10	13.31	18.02	23.72	15.23	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^3)

STATION 1 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	5965	670	572	563	1943	.64
Calanoida N2	10633	3274	1644	281	3958	1.31
Calanoida N3	15851	1150	2273	281	4889	1.62
Calanoida N4	13771	1082	2365	281	4375	1.45
Calanoida N5	9604	1597	1347	1409	3489	1.15
Calanoida N6	9569	428	107	135	2560	.85
SUB TOTAL	65393	8201	8308	2950	21213	7.02
Calanoida (Copepodida) C1-C5						
Calanoida C1	23219	2681	281	563	6686	2.21
Calanoida C2	32298	2306	554	0	8790	2.91
Calanoida C3	135543	30833	641	563	41895	13.86
Calanoida C4	33435	144229	44456	4499	56655	18.74
Calanoida C5	2862	11873	83834	125242	55953	18.51
SUB TOTAL	227357	191922	129766	130867	169978	56.22
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	10400	2425	2047	563	3859	1.28
Cyclopoida N2	22789	3225	4606	1250	7968	2.64
Cyclopoida N3	21393	6893	2835	1226	8087	2.67
Cyclopoida N4	25405	13815	1409	1520	10537	3.48
Cyclopoida N5	20875	7945	1126	1238	7796	2.58
Cyclopoida N6	21644	2113	312	270	6085	2.01
SUB TOTAL	122506	36416	12335	6067	44331	14.66
Cyclopoida (Copepodida) C1-C5						
Cyclopoida C1	26459	3015	496	1262	7808	2.58
Cyclopoida C2	21137	3681	667	2390	6969	2.30
Cyclopoida C3	25249	5941	1390	416	8249	2.73
Cyclopoida C4	34534	12023	1101	416	12019	3.97
Cyclopoida C5	12847	10428	2380	1115	6693	2.21
SUB TOTAL	120226	35088	6034	5599	41737	13.80
Calanoida (Adults) C6						
Diaptomus minutus (m)	2216	490	943	1409	1265	.42
Diaptomus minutus (f)	8430	981	605	1262	2820	.93
Epischura lacustris (m)	110	0	0	0	28	.01
SUB TOTAL	10756	1471	1548	2671	4112	1.36
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	892	567	833	573	.19
Mesocyclops edax (f)	1005	59	70	0	284	.09
Cyclops bicuspidatus thomasi (m)	2869	12293	4614	1485	5315	1.76
Cyclops bicuspidatus thomasi (f)	326	403	873	135	434	.14
Eucyclops agilis (f)	0	162	0	0	41	.01
SUB TOTAL	4200	13809	6124	2453	6647	2.20

Cladocera						
Diaphanosoma birgei	502	5199	183	730	1654	.55
Holopedium gibberum	9958	686	563	451	2915	.96
Daphnia galeata mendotae	125	1101	1225	54	626	.21
Bosmina longirostris	12012	1535	7716	7753	7254	2.40
Sida crystallina	0	51	0	0	15	.01
Daphnia catawba	372	2303	3369	770	1704	.56
Leptodora kindtii	400	126	181	0	177	.06
SUB TOTAL	23369	11011	13237	9758	14344	4.74
TOTAL CRUSTACEA	573807	297918	177352	160365	302361	100.00
%Cladocera	4.07	3.70	7.46	6.08	4.74	
%Calanoida (Nauplii) N1-N6	11.40	2.75	4.68	1.84	7.02	
%Calanoida (Copepodida) C1-C5	39.62	64.42	73.17	81.61	56.22	
%Calanoida (Adults) C6	1.87	.49	.87	1.67	1.36	
%Cyclopoida (Nauplii) N1-N6	21.35	12.22	6.96	3.78	14.66	
%Cyclopoida (Copepodida) C1-C5	20.95	11.78	3.40	3.49	13.80	
%Cyclopoida (Adults) C6	.73	4.64	3.45	1.53	2.20	
Rotifera						
Polyarthra vulgaris	240627	146761	31310	22169	110217	5.72
Filinia longiseta	0	274	103	416	198	.01
Kellicottia longispina	170591	83418	61278	20135	83856	4.35
Keratella cochlearis	2360154	1110922	405260	347827	1056041	54.76
Keratella hiemalis	909	61	0	0	243	.01
Monostyla sp.	308	114	310	551	321	.02
Kellicottia bostoniensis	12849	4284	12918	27242	14323	.74
Trichocerca cylindrica	0	0	0	281	70	.00
Trichocera sp.	6138	8279	4182	4050	5662	.29
Conochilus unicornis	26090	664	70	0	6706	.35
Collotheca sp.	0	0	1721	20397	5530	.29
Keratella taurocephala	128914	215073	587601	38445	242508	12.57
Lecane sp.	247	248	280	0	194	.01
Notommata sp.	0	549	3821	17743	5528	.29
Synchaeta sp.	0	288	172	8681	2285	.12
Testudinella sp.	0	0	70	0	18	.00
Polyarthra remata	287899	32959	6794	10904	84639	4.39
Rotaria sp.	0	0	94	0	24	.00
Ploesoma lenticulare	11528	7558	39115	99950	39538	2.05
Ascomorpha ecaudis	2218	840	278	0	834	.04
Ascomorpha ovalis	0	0	0	0	0	0.00
Gastropus stylifer	155160	300579	300282	322945	269742	13.99
Gastropus hyptopus	136	0	0	0	34	.00
SUB TOTAL	3403768	1912871	1455659	941736	1928509	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	3977575	2210789	1633011	1102101	2230869	
%Cladocera	.59	.50	.81	.89	.64	
%Calanoida	7.63	9.12	8.55	12.38	8.75	
%Cyclopoida	6.21	3.86	1.50	1.28	4.16	
%Rotifera	85.57	86.52	89.14	85.45	86.45	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^2)

STATION 2 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	6960	1258	1467	0	2421	.62
Calanoida N2	10133	3367	2386	0	3972	1.02
Calanoida N3	14513	2290	1550	563	4729	1.22
Calanoida N4	9757	1326	2043	563	3422	.88
Calanoida N5	10053	2310	1584	563	3628	.94
Calanoida N6	9305	1425	560	0	2823	.73
SUB TOTAL	60721	11976	9590	1689	20994	5.41
Calanoida (Copepodids) C1-C5						
Calanoida C1	24198	4013	563	0	7194	1.86
Calanoida C2	37575	4137	986	563	10815	2.79
Calanoida C3	117152	27840	466	0	36365	9.38
Calanoida C4	28428	114812	48978	6767	49746	12.83
Calanoida C5	2942	9649	79800	123496	53972	13.92
SUB TOTAL	210295	160451	130793	130826	158091	40.77
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	6658	1421	10464	13321	7966	2.05
Cyclopoida N2	14283	3899	12348	15025	11389	2.94
Cyclopoida N3	20788	6729	10215	10935	12167	3.14
Cyclopoida N4	27242	15727	4548	8634	14038	3.62
Cyclopoida N5	16835	11468	2882	3861	8762	2.26
Cyclopoida N6	11541	5755	2700	227	5056	1.30
SUB TOTAL	97347	44999	43157	52003	59377	15.31
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	19275	3466	2486	1127	6589	1.70
Cyclopoida C2	19237	6260	2055	1355	7227	1.86
Cyclopoida C3	30686	15777	3620	563	12662	3.27
Cyclopoida C4	113839	97760	9425	455	55370	14.28
Cyclopoida C5	46314	90740	24886	4317	41564	10.72
SUB TOTAL	229351	214003	42472	7817	123411	31.83
Calanoida (Adults) C6						
Diaptomus minutus (m)	1762	418	422	563	791	.20
Diaptomus minutus (f)	2667	1266	359	0	1073	.28
Epischura lacustris (m)	308	0	0	0	77	.02
Epischura lacustris (f)	0	123	0	0	31	.01
SUB TOTAL	4737	1807	781	563	1972	.51
Cyclopoida (Adults) C6						
Mesocyclops edax (m)	0	449	577	0	257	.07
Mesocyclops edax (f)	2353	241	147	0	685	.18
Cyclops bicuspidatus thomasi (m)	1233	13279	12466	1139	7029	1.81
Cyclops bicuspidatus thomasi (f)	3254	4135	10727	4306	5606	1.45
Eucyclops speratus (m)	0	193	0	0	48	.01
SUB TOTAL	6840	18297	23917	5445	13625	3.51

Cladocera						
Diaphanosoma birgei	670	5603	174	451	1725	.44
Holopedium gibberum	10790	480	563	0	2958	.76
Daphnia galeata mendotae	67	994	1159	451	668	.17
Bosmina longirostris	6803	1560	2340	2438	3285	.85
Sida crystallina	0	590	0	0	148	.04
Daphnia catawba	862	1475	2581	863	1445	.37
Leptodora kindtii	110	0	0	0	28	.01
SUB TOTAL	19302	10702	6817	4203	10256	2.65
TOTAL CRUSTACEA	628593	462235	257527	202546	387725	100.00
%Cladocera	3.07	2.32	2.65	2.08	2.65	
%Calanoida (Nauplii) N1-N6	9.66	2.59	3.72	.83	5.41	
%Calanoida (Copepodida) C1-C5	33.45	34.71	50.79	64.59	40.77	
%Calanoida (Adults) C6	.75	.39	.30	.28	.51	
%Cyclopoida (Nauplii) N1-N6	15.49	9.74	16.76	25.67	15.31	
%Cyclopoida (Copepodida) C1-C5	36.49	46.30	16.49	3.86	31.83	
%Cyclopoida (Adults) C6	1.09	3.96	9.29	2.69	3.51	
Rotifera						
Polyarthra vulgaris	276586	692691	293583	130213	348268	8.98
Filinia longisetae	110	545	106	0	190	.00
Kellicottia longispina	135014	205101	288002	60910	172257	4.44
Keratella cochlearis	1640446	2836883	1467519	602450	1636825	42.21
Keratella hiemalis	1523	0	0	0	381	.01
Conochiloides sp.	0	0	768	0	192	.00
Monostyla sp.	126	266	0	563	239	.01
Keratella quadrata	28	0	0	0	7	.00
Kellicottia bostoniensis	26904	358331	2924068	1165521	1118706	28.85
Trichocera sp.	2101	21859	10564	4642	9792	.25
Conochilus unicornis	28552	130	0	0	7171	.18
Collotheca sp.	0	144	1422	3753	1330	.03
Keratella taurocephala	165835	191664	500721	40073	224573	5.79
Ieoane sp.	418	719	281	0	355	.01
Anuraeopsis fissa	287	246	0	0	133	.00
Notommata sp.	0	0	0	22341	5585	.14
Synchaeta sp.	88	0	0	0	22	.00
Pompholyx sp.	0	0	0	0	0	0.00
Trichotria sp.	225	0	107	0	83	.00
Testudinella sp.	0	0	93	0	23	.00
Polyarthra remata	132840	46724	59601	27590	66689	1.72
Ploesoma lenticulare	12109	5596	86118	81002	46206	1.19
Ploesoma truncatum	0	0	236	0	59	.00
Ascomorpha ecaudis	1729	898	177	0	701	.02
Ascomorpha ovalis	0	98	70	0	42	.00
Gastropus stylifer	71058	207421	399228	272493	237550	6.13
Gastropus hyptopus	193	1382	0	0	394	.01
SUB TOTAL	2496172	4570698	6032664	2411551	3877771	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	3124765	5032933	6290191	2614097	4265497	
%Cladocera	.62	.21	.11	.16	.24	
%Calanoida	8.82	3.46	2.24	5.09	4.24	
%Cyclopoida	10.67	5.51	1.74	2.50	4.60	
%Rotifera	79.88	90.82	95.91	92.25	90.91	

LAKE 223 ZOOPLANKTON MONTHLY AVERAGE ABUNDANCE (#/M^2)

STATION 3 (Entire water column)

	JUN	JUL	AUG	SEP	MEAN	% OF TOT
Calanoida (Nauplii) N1-N6						
Calanoida N1	6868	960	744	563	2284	.51
Calanoida N2	11665	2362	760	0	3697	.83
Calanoida N3	14336	1946	1203	563	4512	1.01
Calanoida N4	16268	2056	1964	0	5072	1.14
Calanoida N5	12516	1606	539	563	3806	.85
Calanoida N6	7705	739	577	0	2255	.51
SUB TOTAL	69358	9669	5787	1689	21626	4.86
Calanoida (Copepodids) C1-C5						
Calanoida C1	22283	2894	606	0	6446	1.45
Calanoida C2	47205	4768	410	281	13166	2.96
Calanoida C3	122225	27155	369	281	37508	8.42
Calanoida C4	26763	107030	46398	1691	45471	10.21
Calanoida C5	2779	8514	79035	97111	46860	10.53
SUB TOTAL	221255	150361	126818	99364	149450	33.57
Cyclopoida (Nauplii) N1-N6						
Cyclopoida N1	11608	1468	9629	24902	11902	2.67
Cyclopoida N2	20766	4318	15926	58603	24903	5.59
Cyclopoida N3	26658	5149	14389	45503	22925	5.15
Cyclopoida N4	42533	14816	6438	17200	20247	4.55
Cyclopoida N5	26650	10975	2542	1707	10469	2.35
Cyclopoida N6	17567	4660	1464	2561	6568	1.48
SUB TOTAL	145782	41406	50388	150476	97013	21.79
Cyclopoida (Copepodids) C1-C5						
Cyclopoida C1	25655	4395	1756	0	7952	1.79
Cyclopoida C2	39963	5125	1558	0	11662	2.62
Cyclopoida C3	56308	12863	1198	2255	18156	4.08
Cyclopoida C4	138672	83193	5823	2988	57669	12.95
Cyclopoida C5	67529	94451	13794	7685	45865	10.30
SUB TOTAL	328127	200027	24129	12928	141303	31.74
Calanoida (Adults) C6						
Diaptomus minutus (m)	1644	162	644	0	618	.14
Diaptomus minutus (f)	4795	1545	686	0	1752	.39
SUB TOTAL	6439	1707	1330	0	2369	.53
Cyclopoida (Adults) C6						
Tropocyclops prasinus mexicanus (f)	160	0	0	0	40	.01
Mesocyclops edax (m)	0	0	577	0	144	.03
Mesocyclops edax (f)	947	413	324	0	421	.09
Cyclops bicuspidatus thomasi (m)	2834	15812	11931	4116	8673	1.95
Cyclops bicuspidatus thomasi (f)	1351	5762	4155	6831	4530	1.02
Eucyclops speratus (m)	0	372	0	0	93	.02
Eucyclops speratus (f)	0	0	0	0	0	0.00
SUB TOTAL	5292	22379	16987	10947	13901	3.12

Cladocera						
Diaphanosoma birgei	1152	13581	651	563	3987	.90
Holopedium gibberum	3662	369	214	0	1061	.24
Daphnia galeata mendotae	110	2254	4448	426	1810	.41
Bosmina longirostris	24455	1909	4908	5639	9248	2.08
Ilatona setifera	313	0	0	0	78	.02
Daphnia catawba	1100	2081	6596	3552	3332	.75
Leptodora kindtii	0	154	0	0	39	.01
SUB TOTAL	30792	20428	16817	10180	19554	4.39
TOTAL CRUSTACEA	807045	445977	242256	285584	445216	100.00
%Cladocera	3.82	4.58	6.94	3.56	4.39	
%Calanoida (Nauplii) N1-N6	8.59	2.17	2.39	.59	4.86	
%Calanoida (Copepodids) C1-C5	27.42	33.71	52.35	34.79	33.57	
%Calanoida (Adults) C6	.80	.38	.55	0.00	.53	
%Cyclopoida (Nauplii) N1-N6	18.06	9.28	20.80	52.69	21.79	
%Cyclopoida (Copepodida) C1-C5	40.66	44.85	9.96	4.53	31.74	
%Cyclopoida (Adults) C6	.66	5.02	7.01	3.83	3.12	
Rotifera						
Polyarthra vulgaris	719477	944924	304188	388292	589220	11.52
Filinia longisetae	0	898	128	0	257	.01
Kellicottia longispina	167064	226804	386595	150736	232800	4.55
Keratella cochlearis	2578161	2800700	2115116	1117428	2152851	42.09
Keratella hiemalis	7955	0	0	0	1989	.04
Conochiloides sp.	0	0	469	0	117	.00
Monostyla sp.	834	61	452	708	514	.01
Kellicottia bostoniensis	54957	490865	1461708	3925284	1483204	29.00
Trichocera sp.	6919	30042	14173	16499	16908	.33
Conochilus unicornis	25848	214	0	0	6516	.13
Collotheca sp.	0	0	1151	6662	1953	.04
Keratella taurocephala	191180	224154	530776	22880	242248	4.74
Cephalodella sp.	0	0	563	0	141	.00
Iecane sp.	457	469	201	0	282	.01
Anuraeopsis fissa	0	0	124	0	31	.00
Lepadella sp.	0	283	0	0	71	.00
Monommata sp.	0	154	0	0	39	.00
Notommata sp.	0	0	7222	22009	7308	.14
Synchaeta sp.	0	303	0	2255	640	.01
Trichotria sp.	797	0	0	0	199	.00
Testudinella sp.	160	0	465	563	297	.01
Polyarthra remata	169224	51224	49213	125117	98695	1.93
Rotaria sp.	110	59	0	0	42	.00
Ploesoma lenticulare	7723	5181	74257	44906	33017	.65
Ascomorpha ecaudis	2230	454	369	0	763	.01
Gastropus stylifer	140297	207599	385171	242505	243893	4.77
Gastropus hyptopus	1062	395	73	0	383	.01
SUB TOTAL	4074455	4984783	5332414	6065842	5114374	100.00
TOTAL ZOOPLANKTON (Crustacea + Rotifera)	4881500	5430760	5574670	6351426	5559589	
%Cladocera	.63	.38	.30	.16	.35	
%Calanoida	6.09	2.98	2.40	1.59	3.12	
%Cyclopoida	9.82	4.86	1.64	2.75	4.54	
%Rotifera	83.47	91.79	95.65	95.50	91.99	

Appendix 12A. Length-dry weight relationships[1] used in conversions to dry biomass for cladocerans of Lake 223.

Species	Length (mm) - weight (mg) relationship
Bosmina longirostris	$W = 0.035\ L_b^{3.3493}$
Diaphanosoma birgei	$W = 0.007\ L_b^{3.2269}$
Holopedium gibberum	$W = 0.004\ L_b^{2.6953}$
Daphnia galeata mendotae	$W = 0.006\ L_b^{2.1295}$
Daphnia catawba	$W = 0.009\ L_b^{3.1280}$
Chydorus sphaericus	$W = 0.029\ L_b^{3.1270}$
Sida crystallina	$W = 0.008\ L_b^{2.6101}$

[1] From Lawrence et al. (1987)

Appendix 12B. Dry weights[1] used in conversions to dry biomass for Lake 223 zooplankton other than Cladocera.

a. Calanoida

Life Stage/Species	µg/individual
Nauplius 1	0.03
Nauplius 2	0.05
Nauplius 3	0.09
Nauplius 4	0.13
Nauplius 5	0.16
Nauplius 6	0.20
Copepodid 1	0.28
Copepodid 2	0.42
Copepodid 3	0.73
Copepodid 4	1.50
Copepodid 5	2.04
Copeodid 6 (adult)	
Diaptomus minutus female	2.55
Diaptomus minutus male	1.92
Diaptomus sicilis female	7.64
Diaptomus sicilis male	2.76
Epischura lacustris female	21.28
Epischura lacustris male	13.98

[1] From Lawrence et al. (1937) and Malley (unpublished data)

Appendix 12B (continued)

b. Cyclopoida

Life Stage/species	µg/individual
Nauplius 1	0.016
Nauplius 2	0.026
Nauplius 3	0.041
Nauplius 4	0.056
Nauplius 5	0.069
Nauplius 6	0.084
Copepodid 1	0.20
Copepodid 2	0.21
Copepodid 3	0.41
Copepodid 4	0.77
Copepodid 5	1.23
Copepodid 6	
Cyclops bicuspidatus thomasi female	2.92
Cyclops bicuspidatus thomasi male	1.19
Tropocyclops prasinus mexicanus female	0.57
Tropocyclops prasinus mexicanus male	0.28
Mesocyclops edax female	8.79
Mesocyclops edax male	1.81

c. Rotifera

Life Stage/species	µg/individual
Conochilus unicornis	0.020
Filinia longiseta	0.037
Collotheca sp.	0.006
Polyarthra vulgaris	0.031
Polyarthra remata	0.012
Polyarthra dolichoptera	0.010
Synchaeta sp.	0.012
Ploesoma lenticulare	0.046
Ascomorpha ecaudis	0.014
Ascomorpha ovalis	0.012
Gastropus stylifer	0.015
Gastropus hyptopus	0.019
Trichocerca cylindrica	0.070
Trichocerca sp.	0.006
Keratella cochlearis	0.009
Keratella hiemalis	0.028
Keratella taurocephala	0.015
Kellicottia longispina	0.016
Kellicottia bostoniensis	0.012
Anuraeopsis fissa	0.005
Lecane sp.	0.028